TECHNOLOGY DEPT.

October 30, 1940

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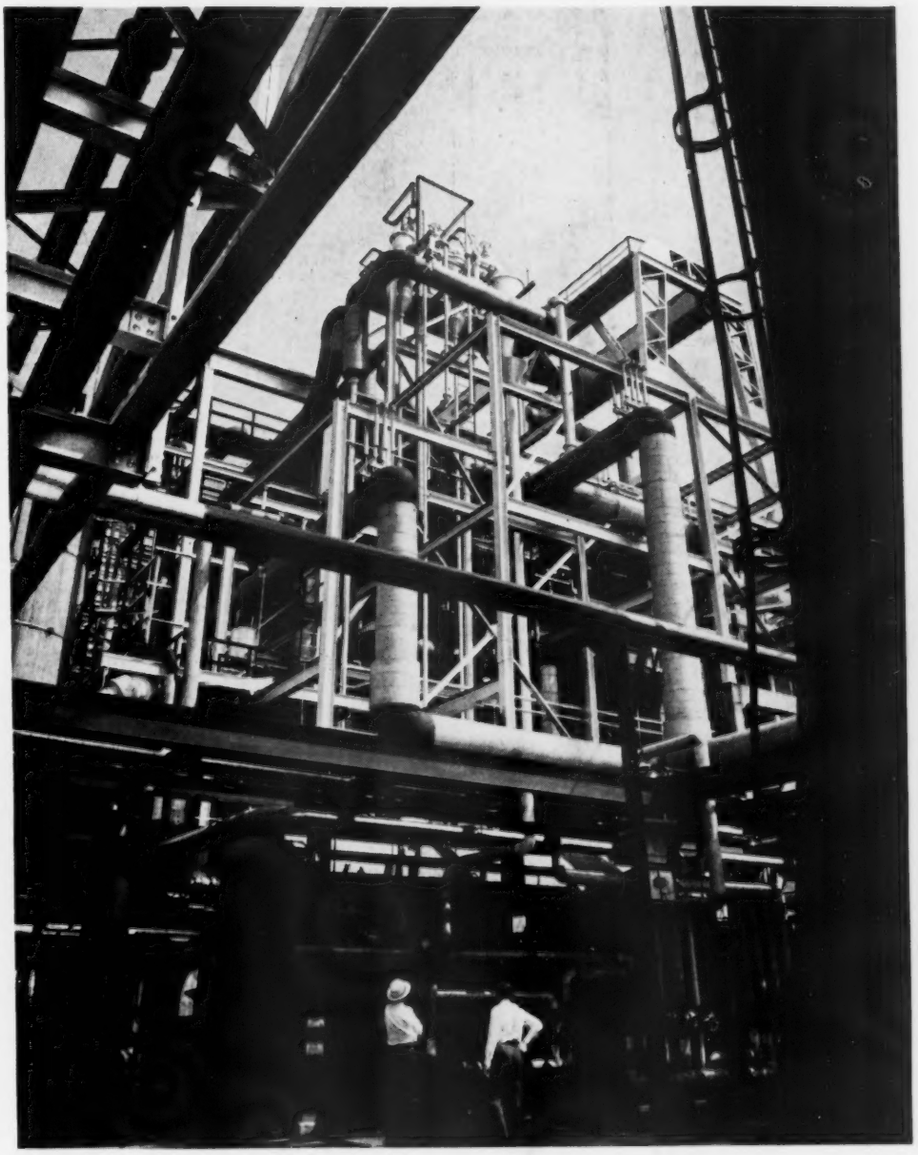
NATIONAL PETROLEUM NEWS

CATALYTIC CRACKING AT PAULSBORO



Catalyst cases in this maze of structural steel and pipe produce cracked aviation fuel base meeting the Army's rigid specifications. See P. R-386

REFINING TECHNOLOGY EDITION

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FOR 39 YEARS
FORT WAYNE INDIANA

COMING MEETINGS

NOVEMBER

California Natural Gasoline Assn., Los Angeles, Calif., Fri., Nov. 1.

Tennessee Oil Men's Assn., Fall Convention, Chattanooga, Tenn., Wed.-Fri., Oct. 30-Nov. 1.

Texas Mid-Continent Oil & Gas Assn., Fort Worth, Tex., Thurs.-Sat., Oct. 31-Nov.2.

SAE, National Aircraft Production Meeting, Biltmore Hotel, Los Angeles, Calif., Thurs.-Sat., Oct. 31-Nov. 2.

American Assn. of Petroleum Geologists, Los Angeles, Calif., Thurs.-Fri., Nov. 7-8.

SAE, National Fuels and Lubricants Meeting, Mayo Hotel, Tulsa, Okla., Thurs.-Fri., Nov. 7-8.

American Petroleum Institute, 21st Annual Meeting, Stevens Hotel, Chicago, Ill., Mon.-Fri., Nov. 11-15.

Arkansas Oil Dealers Assn., Little Rock, Ark., Thurs., Nov. 14.

American Society for Testing Materials, Hotel Mayflower, Washington, D. C., Thurs., Nov. 14.

American Automobile Assn., Washington, D. C., Thurs.-Fri., Nov. 14-15.

Missouri Independent Oil Jobbers Assn., Fourth Annual convention, Hotel DeSoto, St. Louis, Mo., Wed.-Thurs., Nov. 27-28.

DECEMBER

American Institute of Chemical Engineers, New Orleans, La., Mon.-Fri., Dec. 2-6.

New Jersey Oil Trades Assn., Annual Meeting and Banquet, Robert Treat Hotel, Newark, N. J., Thurs., Dec. 5.

National Asphalt Conference, Dallas, Tex., Mon.-Sat., Dec. 9-14.

South Dakota Independent Oil Men's Assn., 22nd Annual Convention, Coliseum Annex Bldg., Sioux Falls, Iowa, Tues., Wed., Dec. 10-11.

JANUARY, 1941

SAE Annual Meeting, (and Engineering Display) Book-Cadillac Hotel, Detroit, Mich., Jan. 6-10.

Oil Trades Assn. of New York, Quarterly Meeting and Dinner, Waldorf-Astoria, New York, Jan. 21.

FEBRUARY, 1941

Kentucky Petroleum Marketers Assn., Fifteenth Annual Meeting and Convention, Brown Hotel, Louisville, Ky., Feb. 11-12.

North Texas Oil & Gas Assn., Wichita Falls, Tex., Feb. 22.

Iowa Independent Oil Jobbers Assn., Des Moines, Ia., Feb. 26-28.

American Petroleum Institute, Division of Production, Southwestern District, Washington-Youree Hotel, Shreveport, La., Feb. 27-28.

MARCH, 1941

American Society for Testing Materials, Hotel Mayflower, Washington, D. C., March 3-7.

National Dixie Distributors, Inc., Fort Worth, Tex., March 10.

American Petroleum Institute, Division of Production, Spring Meeting, Pacific Coast District, Biltmore Hotel, Los Angeles, Calif., March 11.

Indiana Independent Petroleum Assn., 1941 Spring Convention & Refiners' & Suppliers' Exhibit, Hotel Severin, Indianapolis, Ind., March 11-13.

Oil Burner Institute, Progress Exhibition, Commercial Museum, Philadelphia, Pa., March 17-22.

APRIL, 1941

American Assn. of Petroleum Geologists, 26th Annual Meeting, Rice Hotel, Houston, Tex., April 2, 3 and 4.

American Petroleum Institute, Division of Production, Wm. Penn Hotel, Pittsburgh, Penna., April 17-18.

Petroleum Industry Electrical Assn., Tulsa, Okla., April 23-25.

Natural Gasoline Assn. of America, Annual Convention, Baker Hotel, Dallas, Texas, April 23-25.

National Petroleum Assn., semi-annual meeting, Hotel Cleveland, Cleveland, Ohio, April 24-25.

NATIONAL PETROLEUM NEWS

OCTOBER 30, 1940

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THIS WEEK WITH NPN

PERSONNEL

If Oil Management is to successfully meet today's competition and the narrowing profit margins, competent personnel is vitally important. In this issue, "How to Judge a Dealer" gives the personnel practices of successful marketers. Along with the article, is a useful "Personnel Guide and Service Record" that every Oil Marketer can use in analyzing the capabilities of each worker. Copies can be obtained in quantities from NPN. See page 29.

SERVICE STATIONS

"Service Stations of the Future" is the title applied to the two new stations now being opened on state-owned parkways in the East. Servicing and merchandising problems at these stations is described on page 35.

EXTRA COPIES

With hundreds of orders coming in daily, it looks as though the Winter-Change-Over Issue of NPN to be published November 6th will be a complete sell-out. Extra copies should be ordered NOW—10c per copy in any quantity.

WAGE-HOUR LAW

With the wage-hour authorities launching a drive against oil marketers, NPN is publishing all the information it can find on the wage-hour law and its application to oil industry—more on Page 13.

NEXT WEEK

Next week, NPN will publish its annual Winter Change-Over issue. It will feature engineering facts from automotive authorities, giving reasons why Change-Over is important, the volume of the Change-Over market, a station check-list of needed items, and articles showing the experience of other marketers in meeting unusual sales and weather conditions.

ADVERTISING PAGES REMOVED

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at the right TIME?

. . at the right PRICE?

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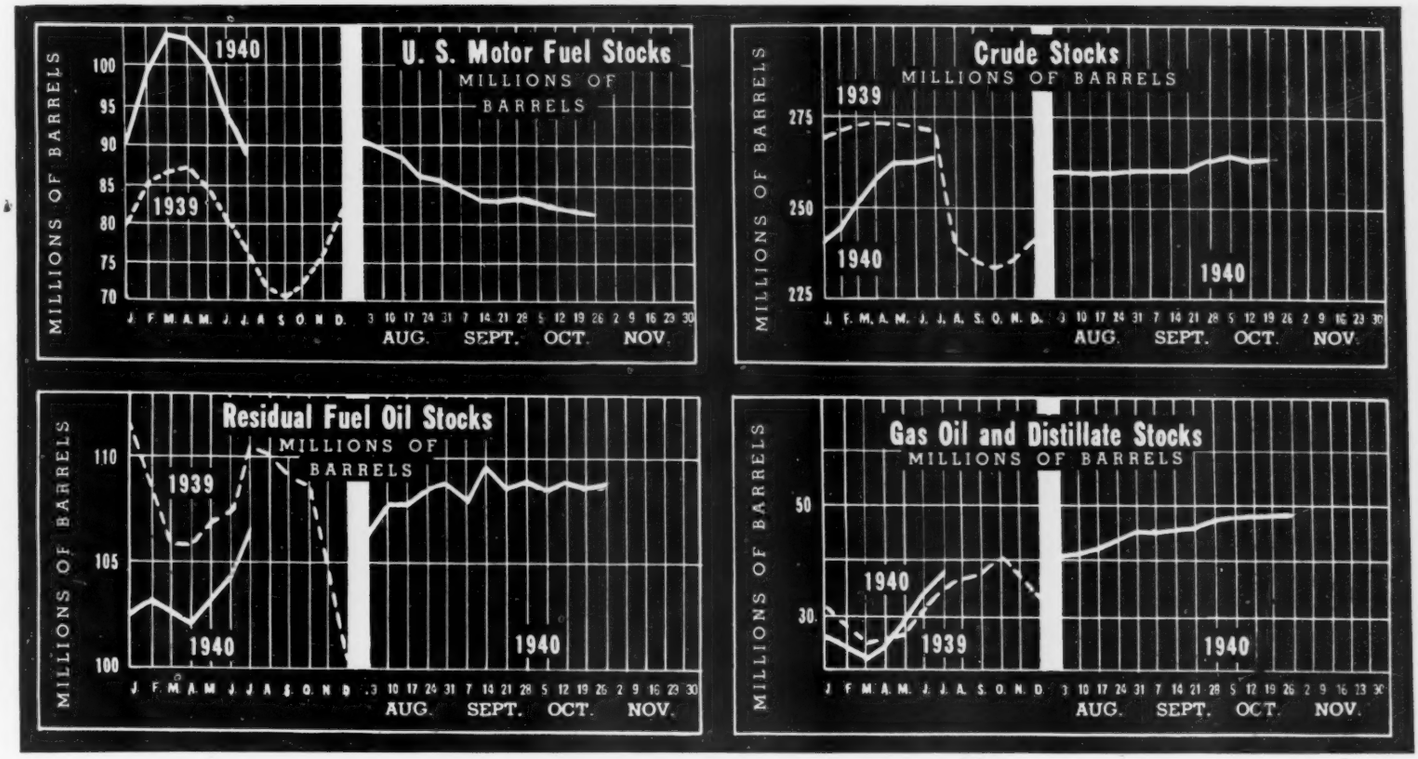
LATEST OIL INDUSTRY
· STATISTICS ·



A. P. I. Weekly Refinery Report

(Figures in Thousands of Barrels of 42 Gallons Each)

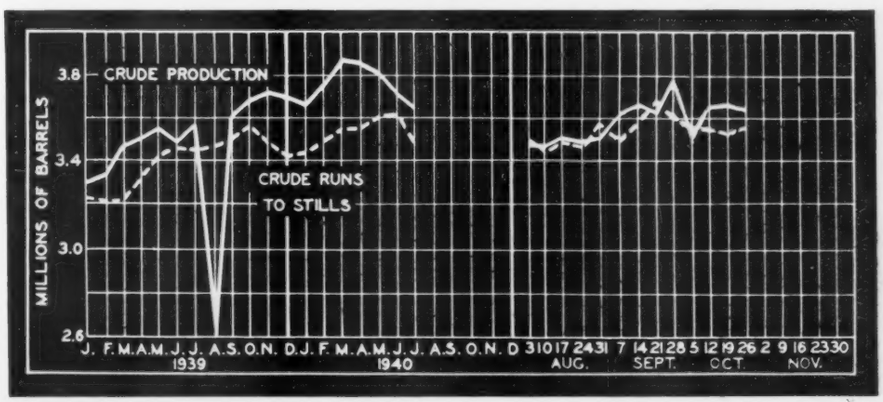
Districts	Daily Average Crude to Stills Week Ended		Per Cent of Reporting Capacity Week Ended		†Gasoline Production Week Ended		Total Stocks Finished and Unfinished Motor Fuel‡ Week Ended		Total Stocks of Gas Oil & Distillates Week Ended		Total Stocks of Residual Fuel Oil Week Ended	
	Oct. 26	Oct. 19	Oct. 26	Oct. 19	Oct. 26	Oct. 19	Oct. 26	Oct. 19	Oct. 26	Oct. 19	Oct. 26	Oct. 19
East Coast	598	547	93.0	85.1	1,420	1,528	18,958	19,477	17,996	*18,234	12,970	12,582
Appalachian	122	119	85.9	83.8	434	406	3,235	3,205	579	596	490	529
Ind., Ill., Ky.	603	582	90.0	86.9	2,282	2,395	13,652	13,818	5,679	5,668	3,620	3,524
Okla., Kans., Mo.	253	255	78.3	78.9	§891	§931	6,186	6,244	1,654	1,597	2,274	2,260
Inland Texas	122	122	73.1	73.1	481	566	1,600	1,628	404	404	1,565	1,535
Texas Gulf	858	874	89.8	91.5	2,581	2,518	13,103	12,942	8,828	8,739	8,493	8,443
La., Gulf	110	105	68.8	65.6	284	305	2,634	2,764	1,389	1,330	1,868	1,840
No. La., Ark.	48	47	92.3	90.4	132	129	481	472	335	341	548	549
Rocky Mt.	30	40	44.1	58.8	135	185	806	886	123	131	369	382
California	479	494	65.6	67.7	1,349	1,428	15,296	15,280	10,681	10,541	74,378	74,582
Total Reporting	3,223	3,185	82.4	81.5	9,989	*10,391	75,951	76,716	47,668	*47,581	106,575	106,226
U. S. Total**	3,565	3,525	....	....	11,243	11,696	80,891	81,656	48,893	*48,841	108,475	108,141
U. S. Total 10-26-39**	3,580	.....	....	....	12,327		72,944		39,778		114,016	

†Includes straight-run, cracked and natural blended. ‡Includes stocks at refineries, in bulk-terminals, pipe lines and in transit. §12% of reporting capacity in this district did not report gasoline production. **Estimated, U. S. Bureau of Mines basis. *Revised.

Crude Oil Production for the U. S.

(American Petroleum Institute figures)

	Week Ended Oct. 26 Barrels	Week Ended Oct. 19 Barrels
Oklahoma	397,200	398,350
Kansas	189,600	195,450
Nebraska	2,600	2,550
Texas	1,384,400	1,375,650
Louisiana	283,150	284,600
Arkansas	68,950	69,700
Mississippi	15,450	14,250
Illinois	343,700	351,100
Indiana	19,100	18,150
Eastern (Ill. and Ind. excluded)	86,950	89,700
Michigan	48,100	47,200
Wyoming	74,200	77,450
Montana	18,200	18,500
Colorado	3,350	3,600
New Mexico	101,450	101,100
California	603,900	620,200
Total U. S.	3,640,300	3,667,550
Crude Imports	123,140	146,140
Total New Supply	3,763,440	3,813,690


CRUDE PRODUCTION
CRUDE RUNS TO STILLS
MILLIONS OF BARRELS
3.8
3.4
3.0
2.6
J. F. M. A. M. J. J. A. S. O. N. D. J. F. M. A. M. J. J. A. S. O. N. D
1939
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3 10 17 24 31 7 14 21 28 5 12 19 26 2 9 16 23 30
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The U. S. Army Air Corps (Spec. 26551-D) uses standard UNI-FLO couplings with wire cuffs in all sizes from ¾" to 2".

The U. S. Navy (Spec. 33H2) uses UNI-FLO and UNIVERSAL couplings with wire cuffs in all sizes from 1" to 3" inclusive.

Uni-flo It's no accident that UNI-FLO reattachable hose couplings have been selected by both Army and Navy; the armed forces must have the best!

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Simple to attach and reattach, it permits rapid fueling and withstands high pressure under tensile, pull or hydrostatic tests.

Stream-flo The *genuine* one-piece gasoline hose coupling that gives you speedy, economical service. STREAM-FLO is the original and only full-flow coupling made of one-piece drop forged brass. Its tube is forged integral with its body!

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· STATISTICS ·

N.P.N. Gasoline Index

	Dealer T.W.	Tank Car
	Cents Per Gallon	
Oct. 28	8.69	5.09
Month ago	8.66	5.11
Year ago	9.83	6.25

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is a weighted average of 9 wholesale markets for regular-grade gasoline.

Weekly Changes in Crude Oil Stocks*

(Thousands of barrels)

Grade or origin	Oct. 12	Oct. 19	Change from Oct. 12
Pennsylvania Grade	4,707	4,681	— 26
Other Appalachian	1,374	1,416	+ 42
Lima-Michigan	1,460	1,474	+ 14
Illinois-Indiana	19,840	19,883	+ 43
Arkansas	3,466	3,528	+ 62
Kansas	8,187	8,258	+ 71
Louisiana:	13,768	13,850	+ 82
Northern (Inc. Miss.)	5,431	5,509	+ 78
Gulf Coast	8,337	8,341	+ 4
New Mexico	7,359	7,508	+149
Oklahoma	64,397	64,162	—235
Texas:	82,526	83,171	+645
East Texas	18,636	19,161	+525
West Texas	18,251	18,209	— 42
Gulf Coast	20,101	19,728	—373
Other Texas	25,538	26,073	+535
Rocky Mountain	16,384	16,143	—241
California	35,069	35,188	+119
Foreign	2,974	2,836	—138
Total U. S. refinable	261,511	262,098	+587
Heavy in California	12,545	12,556	+ 11

*As compiled by U. S. Bureau of Mines.

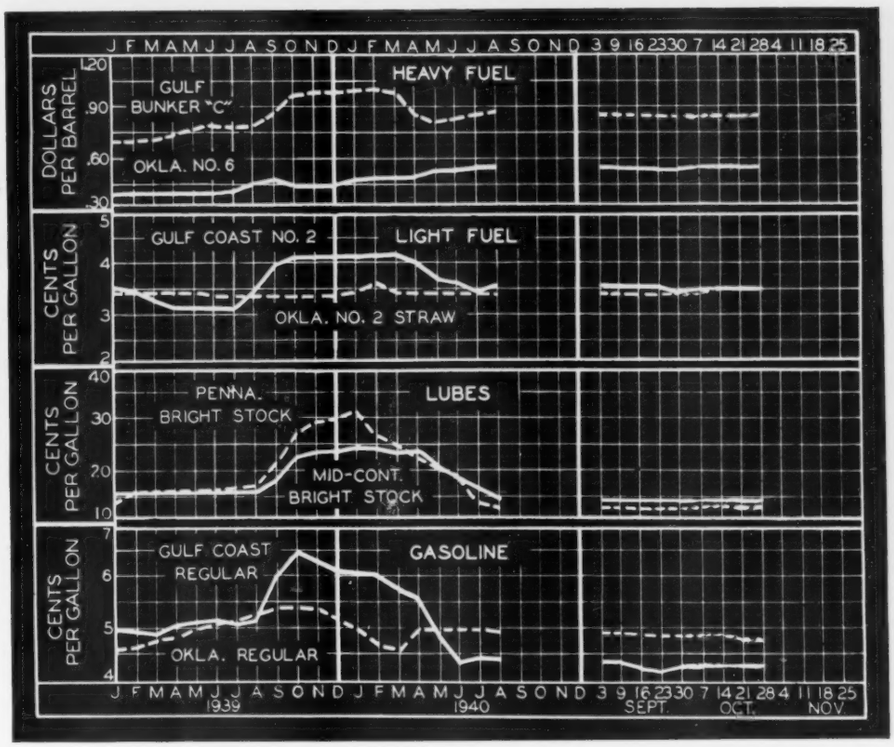
Runs to Stills, Pennsylvania

Crude Oil*

Week Ending	Daily Average	Week Ending	Daily Average
Dec. 30, '39	86,825	June 1	75,638
Jan. 6, '40	83,037	June 8	73,985
Jan. 13	75,756	June 15	75,719
Jan. 20	78,145	June 22	74,230
Jan. 27	81,885	June 29	78,823
Feb. 3	75,662	July 6	67,557
Feb. 10	82,412	July 13	72,761
Feb. 17	81,039	July 20	68,571
Feb. 24	85,515	July 27	66,147
Mar. 2	82,435	Aug. 3	59,937
Mar. 9	69,410	Aug. 10	65,942
Mar. 16	83,034	Aug. 17	68,601
Mar. 23	85,584	Aug. 24	69,800
Mar. 30	83,349	Aug. 31	72,776
April 6	75,350	Sept. 7	58,516
April 13	78,417	Sept. 14	64,723
April 20	79,619	Sept. 21	68,242
April 27	77,820	Sept. 28	77,364
May 4	74,459	Oct. 5	71,747
May 11	75,639	Oct. 12	71,931
May 18	74,294	Oct. 19	75,494
May 25	77,475		

*Compiled by National Petroleum Association.

REFINERY TANK CAR PRICES



INVENTORIES, SEPT. 30, 1940, OF PENNSYLVANIA OILS OTHER THAN LUBRICATING OILS

(Compiled by National Pet. Ass'n. from reports of oil region refiners. Figures in barrels)

NAPHTHAS & GASOLINE	
(1) Straight run, unblended and/or unleaded for sale as motor fuel	9,723
(2) Naphtha and gasoline, for sale for blending or further refining, or held at refinery, for further distillation, reforming, blending or leading	178,927
(3) Below 65 octane, not included in (1) or (2) above	3,927
(4) 65 octane & above	200,696
Salable naphthas other than motor fuel material (does not include Refinery Process naphthas)	16,258
Kerosine	92,263
36/40 gas oil (includes furnace oil)	83,398
Fuel Oil (not reported above)	28,951
Oils held as cracking plant charging stocks	297,994
Non-viscous neutral	22,314
Wax distillate	107,659
Crude petrolatum	15,355
Wax (lbs.)	3,026,172

Natural Gasoline, August 1940*

Thousands of gallons

	Production				Stocks			
					Aug. 31, 1940		July 31, 1940	
	Aug. 1940	July 1940	Jan.-Aug. 1940	Jan.-Aug. 1939[1]	At refineries	At plants and terminals	At refineries	At plants and terminals
East Coast	.....	.....	.....	.....	5,754	.....	5,922	.....
Appalachian	4,463	4,570	51,048	44,503	924	6,806	840	7,806
Ill., Mich., Ky.	2,759	2,827	18,936	8,763	7,560	486	7,938	512
Oklahoma	33,739	33,550	265,795	289,111	3,696	33,178	3,990	34,647
Kansas	4,788	4,577	41,592	39,085	42	2,024	84	1,680
Texas	79,107	80,717	581,132	488,046	15,834	122,601	18,690	116,340
Louisiana	9,723	9,030	70,623	58,433	336	1,381	336	1,439
Arkansas	3,125	3,189	21,450	16,986	714	233	798	290
Rocky Mountain	8,347	8,471	60,703	58,278	5,754	2,203	4,788	2,310
California	50,509	49,797	388,331	409,255	111,930	2,028	106,974	3,144
Total	196,560	196,728	1,499,610	1,412,460	152,544	170,940	150,360	168,168
Daily average	6,341	6,346	6,146	5,813	.....	.....	.....	.....
Total (thousands of barrels)	4,680	4,684	35,705	33,630	3,632	4,070	3,580	4,004
Daily average	151	151	146	138	.....	.....	.....	.....

[1] Final figures.
[2] Not available.
*Compiled by Bureau of Mines.

John R. Suman

Assayer, surveyor, geologist, engineer, technical superintendent, and author, John R. Suman, Houston, has a background rich in petroleum experience. Nominated for the presidency of the American Institute of Mining and Metallurgical Engineers—tantamount to election, Mr. Suman is vice-president in charge of production for the Humble Oil & Refining Co.

Born in Daleville, Ind., April 9, 1890, Mr. Suman later attended the University of Southern California and the University of California's College of Mines where he received a B.S. degree in mining engineering.

This oil man's career commenced as assistant assayer and surveyor of a California mining company. In 1912, he joined Rio Bravo Oil Co. as assistant geologist, and from 1913-17 was chief engineer. Joining Roxana Petroleum Corp. in 1917, he was technical superintendent for two years, then, in 1919, rejoined Rio Bravo as assistant to the vice-president and general manager, taking over these duties, in 1925.

From 1923-26, Mr. Suman also served as general manager of technical operations for Associated Oil Co. of California. Joining Humble in 1927, he became a director, and in 1933 took over his present duties, as vice-president in charge of production.

In addition to membership in the A.I.M.E., he belongs to American Assn. of Petroleum Geologists, American Petroleum Institute, Mid-Continent Oil and Gas Assn., and the Institute of Petroleum. He is also president of the Oil-World Exposition at Houston and author of "Petroleum Production Methods".

When NPN phoned Mr. Suman this week for additional information, we were informed that "he can't be reached. We don't know where he is, as he's out working on the Houston Community Fund", of which he's general campaign chairman.

NATIONAL PETROLEUM NEWS

VOLUME 32 WEDNESDAY, OCTOBER 30, 1940 NUMBER 44

Sadler Halts Move To Cut Texas Quotas

By Telegraph
Special to N.P.N.

AUSTIN, Oct. 29.—Hopes in some Texas oil quarters for a curtailment in state production before Dec. 1 were faded today, following indications that Texas Railroad Commission will not call an emergency hearing to consider curtailment measures.

Moreover, indications are that the commission will continue granting of increased allowables for individual fields showing firm market demand.

Humble Oil & Refining Co., which had asked for increased allowables as protection against "discrimination" if a horizontal reduction were not made, today was granted several allowable increases by the Texas commission. Increases totaled 15,985 bbls., including hikes in Anahuac field from 7739 to 13,360 bbls. and Hastings, 17,006 to 27,360 bbls.

Sadler Throws Wrench

Commissioner Jerry Sadler has announced that he sees no necessity for an emergency oil proration order before the regular 90-day order expires on Dec. 1. Chairman Lon Smith usually sides with Sadler, so it appears that Commissioner E. O. Thompson is left out on a limb with his proposed order cancelling shut-down exemptions and calling for a special proration meeting on Nov. 2.

Col. Thompson is now in Chicago for an election speech backing President Roosevelt. Last week, before leaving Texas, he signed an order for the Nov. 2 meeting. He cited need for a horizontal cut in Texas production, stating that otherwise the oil will soon be going into storage—"and we have enough crude and gasoline already in storage to meet all possible demands."

Commissioner Sadler withheld his signature "pending a conference with Lon Smith." Now, Sadler has expressed his opposition to Thompson's proposal. Two out of three commissioners must sign an order to make it effective.

Texas Roundup, Lead to Come Tuesday—Production News ..

Baker Tangles with E.O.T.

Col. Thompson's move to curtail production came after a

(*Continued on page* 20)

Socony Hikes Gasoline

NEW YORK, Oct. 26.—Socony Vacuum Oil Co., Inc., has announced that "with the exception of Western New York state, posted prices for Mobilgas (regular) at its bulk plants throughout New York and New England will be increased 0.1c per gal. effective Oct. 29."

Jobber Association Promises Legal Aid In Wage-Hour Suits

N. P. N. News Bureau

CLEVELAND, Oct. 29.—One mid-western jobbers' association has indicated to its members that it will furnish legal aid if any of them are cited by the Wage-Hour Division so that the question of a jobber's status under the federal wage-hour law can be determined in court, it was learned today.

This action comes to light as several mid-western oil marketers have agreed to pay overtime wages, which the Wage-Hour Division alleges are due their employes, rather than become involved in an expensive lawsuit. In each instance, basis of the complaint was not failure to pay the 30c hourly minimum pay but for allegedly not paying time-and-a-half of regular pay for overtime.

Meanwhile, wage-hour officials announce that Standard Oil Co. of Indiana has paid up $92,000 in overtime wages allegedly due its employes (see Page 14).

Employes File Suits

Oil companies have been named defendants in several suits for overtime pay filed by employes seeking double damages and attorneys' fees as provided in the wage-hour law. One major company is defendant in two such suits pending in Tennessee, while another major company is defendant in an Ohio suit.

In the Ohio suit, the employe—a warehouse superintendent—contends that, even though he was a "boss" and received in excess of $30 a week, he was not within the exemption granted to "executive and administrative" employes because, he said, he engaged in a considerable amount of non-exempt work. So, he seeks overtime wages,

(*Continued on page* 14)

Army Releases 'Specs' On Aviation Gasoline

N. P. N. News Bureau

CLEVELAND, Oct. 29.—Newly-revised specifications for Army-Navy aviation gasoline, covering four grades: 100, 91, 73, and 65 octane number fuels, have just been made public. The new specifications, AN-VV-F-781, 776, 761, and 756 respectively, supersede Army-Navy specifications AN-9531, AN-9530, AN-9527, and AN-9526 which were not disclosed to the general public.

The octane rating is determined by knock test method No. AN-VV-F-746, which is known as the Aviation Fuels Division method or simply the AFD method, and is not confined to Army-Navy use. Octane numbers determined by this method are said to be as a rule slightly above those determined by the A. S. T. M. Motor method. The AFD method imposes somewhat more severe conditions of test engine operation than in the Motor and 1939 Research methods.

Acid heat has been eliminated as a specification for 100, 91, and 73 octane fuels, but is retained for 65-octane fuel at 20 F. This leaves the field open to catalytically cracked gasolines.

Inhibitors are specified to prevent the formation of gum and the precipitation of lead compounds in 100, 91, and 73 octane gasolines. Five only are specified. These are U. O. P. No. 4, DuPont B. A. P., DuPont No. 14, Tricresol, and Alpha-naphthol. Concentration of these inhibitors is not to exceed 1 lb. per 500 gallons of fuel.

Lead Specifications Given

Tetraethyl lead may be used in the form of 1.5-T Mix Ethyl Aviation Fluid in concentrations not exceeding 3 ml. (cc.) per gallon of 100-octane fuel, 4 ml. per gallon in 91-octane fuel, and 1 ml. in 73-octane fuel. No specification is made for 65-octane fuel.

Variations in distillation ranges are shown by the following table:

Fuel Grade	Fuel Evaporated Minimum % 10	50	90
100	167°F.	212°F.	275°F.
91	167°F.	212°F.	275°F.
73	167°F.	221°F.	302°F.
65	167°F.	221°F.	302°F.

Sum of individual temperatures of 10 and 50% points shall not be less than 307°F.

Residue shall not exceed 1½% (for 65-octane fuel it shall be neutral).

The heat of combustion (lower or net value) shall be not less than 18,700 Btu. per lb. for 100, 91, and 65-octane fuels, and 18,300 for 73-octane fuel.

Other requirements which are identical for all four grades are:

Freezing point shall be not higher than —76° F.

Corrosion and residue (Copper Dish): 100 ml. of fuel evaporated to dryness shall

(*Continued on page* 22)

Heavy Demand Sends Tanker Rates Up, 'Clean' Boats Scarce; No. 2 Fuel at 41c

NEW YORK, Oct. 29.—Heavier movement of kerosine and heating oils from Gulf Ports to the Atlantic Seaboard has put nearly all available tankers into service with rates advanced from 2 to 8c during the past week.

A "clean" boat was fixed for Gulf-N Hatteras this morning at 36c for gasoline, 38.5c for kerosine and 41c for No. 2 fuel, with option of Boston at 3.5c additional per bbl. Last paid for "dirty" tonnage was 30c for light crude, 32c for 20-29.9 gravity fuel and 34c for 10-19.9 gravity fuel.

Few boats are being offered in the open charter market, according to reports. "Clean" tonnage is very scarce and few "dirty" boats are available for nearby positions, it was said. Unconfirmed reports were that owners are asking from 1 to 2c higher than last paid rates.

With rates steadily increasing, tankers are coming out of lay-up at a much faster rate than was expected by most boat men. On the first of October, 19 tankers were said to have been in lay-up, while today, only 4 are inactive.

It was reported that one company alone expected to have around 9 tankers in lay-up at the end of October. Of the 4 boats now in lay-up, 1 is said to belong to Standard Oil Co. of New Jersey, 2 to Socony-Vacuum, and 1 to Standard Fruit.

Company Pays $92,000 In Wage-Hour Ruling

N. P. N. News Bureau

WASHINGTON, Oct. 29.—When the Standard Oil Co. of Indiana volunteered to pay its no non-exempt employes overtime for each hour worked over 40 per week but not more than 42 or 44, as the case may be, the company went further than was required by the federal wage-hour law, according to a Wage-Hour Division spokesman here today.

This remark was made here in explaining background of Indiana Standard's $92,000 settlement for overtime pay allegedly due under the wage-hour law which was announced in Kansas City, Mo., yesterday by Walter W. King, acting regional director for the Wage-Hour Division there.

So far as the Wage-Hour Division was concerned, this official explained the Indiana Standard had to pay overtime only on hours worked in excess of 42 or 44 (maximum workweek without overtime was 44 hours the first year of the wage-hour law, 42 hours for the second year and 40 hours since Oct. 24, 1940). However, the company, under management orders, was operating on a 40-hour week so the company has not only paid up the overtime wages due under the law, he said, but has voluntarily agreed to pay overtime on all hours worked between 40 and 42 or 44. These latter payments were not required by the law, he added.

Text of Statement Issued

Complete text of the press release, issued at Kansas City on Oct. 28 in the Indiana Standard case, follows:

"Payments totaling more than $92,000 have been completed to approximately 2,800 employes of the Standard Oil Co. of Indiana making up the difference between the sums actually received and wages and overtime to which they were entitled under the Fair Labor Standards Act, it was announced here today by Walter W. King, acting regional director of The Wage and Hour Division of the U. S. Department of Labor.

"Mr. King pointed out that approximately all the sums paid the employes in the settlement represented overtime, as the minimum wages paid by the company are higher, and the maximum workweek without overtime lower, than the minima prescribed in the Fair Labor Standards Act.

"Examination of the company's records disclosed that whereas, until October 24, of this year, employers did not have to start overtime payments until after 42 hours had been worked, the company in all of its branches has operated on a 40-hour workweek. In addition to the overtime payments which have been made recently to the employes, 23,000 hours of accumulated overtime will be given them voluntarily by the company. This represents hours worked between 40 and 44 for the first year of the act and those between 40 and 42 since October 24, 1939.

"The 2,800 employes who have received checks for overtime are employed in the clerical, refinery, pipe line and crude oil divisions of the company in 14 states. In all, the company employs 14,000 workers. Of the total paid out in overtime, $38,500 was distributed to sales and general office employes of the company at its main headquarters in Chicago. This included $6,100 to elevator operators and other building service employes in the Chicago office.

"Mr. King expressed his warm appreciation of the attitude taken by officials of the company when comparatively minor discrepancies were disclosed in the St. Joseph, Mo., plant.

" 'The very next morning,' he said, 'a member of the company's legal staff in Chicago came to our office in Kansas City and expressed the company's concern that a charge of a violation of the Wage and Hour Law had been made regarding any of its plants. He showed us rules and regulations issued by the company which provided higher standards; in both wages and hours than provided for in the act.

" 'When we disclosed to him, however, the results of our investigation of the St. Joseph plant, he brought it to the attention of officials of the company in Chicago who ordered an immediate investigation of all divisions of the company in the 14 states in which Standard Oil of Indiana operates.'

"Computations of the amounts due were made by auditors of the company and were checked for accuracy by numerous physical inspections of the plants involved by wage and hour investigators under the direction of Inspector Phil R. Clarkson.

"Mr. King pointed out that no legal proceedings were instituted in the Standard Oil case in accord with the policies of the Wage and Hour Division announced several months ago by Colonel Philip B. Fleming, administrator.

" 'Colonel Fleming's policy consistently has been not to regard all failure to comply with the act as deliberate,' he said. 'Months ago he authorized field representatives of the division to settle cases without resort to litigation where investigation disclosed no flagrant intent to violate the act,' Mr. King continued. 'In this case, every official of the company with whom we came into contact displayed readiness to immediately establish, retroactively, practices and policies equal or superior to, provisions of the act. We are informed by the company. and we have no reason to disbelieve it, that these high standards of employment have long been established policies of the organization.'

"Sums involved in the payments to individual workers ranged from 12c to more than $500."

Wage-Hour Official Hails Court Ruling Opening Up Records

N. P. N. News Bureau

CHICAGO, Oct. 28.—Denial by the U. S. Supreme Court of Montgomery Ward & Co.'s petition to review a circuit court's decision ordering the company to turn over wage and hour records to the Wage Hour Administrator, was hailed as "of vital importance in the administration of the law", by Alex Elson, regional wage-hour attorney, here today.

"In effect, the law is now established that it is not necessary that a complaint be filed before an inspection may be made of an employer's records", the regional attorney said, adding "this power will enable effective enforcement".

In the mail order house case, he pointed out, the circuit court on July 18 ruled that the Wage-Hour Division has power to inspect all records of the company without issuing a complaint. The Court also held that officials of the company cannot withhold records of employes whom they contend are exempt from the minimum wage and hours provisions, and that the administrator alone has the power to determine what employes are covered by the act, or are exempt from its provisions.

Jobber Association Promises Legal Aid In Wage-Hour Suits

(*Continued from page* 13)

doubled, and attorneys' fees from his employer.

Still pending in the federal court for northern district of Georgia is the wholesale grocer case which is believed to be "on all fours" with the case of many oil jobbers. The court had not yet handed down its decision.

Wage-Hour Division Checks Each Office

N. P. N. News Bureau

WASHINGTON, Oct. 29.—Discovery of wage-hour violations in any branch establishment of a company doing business on a national or regional scale, immediately will be followed by inspections of all of its branch establishments, wage-hour division announced today, saying instructions making this standard procedure have been sent to all regional offices.

New policy results in part from the inspection of branch establishments of the Standard Oil Co., Indiana, which has just completed payment of more than $92,000 in back wages to 2800 employes, wage-hour officials stated.

Wage-hour administrator Fleming meanwhile had announced that in September alone $84,565 in back wages had been paid to employes of 16 companies with branch offices located about the nation.

"When a branch office or plant of a national corporation is in violation, our experience shows that other branches of the same corporation are likely to be in violation in the same way," Colonel Fleming said. "Sometimes this is because branch managers have been given the wrong instructions by the main office through a misunderstanding of the law. Sometimes we find violations in direct contradiction to orders given by the main office.

"Experience shows that it is not enough for the headquarters of a national firm to order its branch managers to obey the wage and hour law. To be safe, the management should follow up these instructions and see that they are carried out.

"We find that some of these violations are caused by competition among branch managers to keep labor costs down. This tends to defeat fair labor standards just as cut-wage, cut-price competition tends to depress conditions in any highly competitive industry."

Arnold Hits Oil Industry Before Advertising Group

N. P. N. News Bureau

CHICAGO, Oct. 24. — Assistant Attorney General Arnold, speaking before the Chicago Federated Advertising Club, cited the oil industry to illustrate his views on the effect of "restraints of trade" on consumer costs and the national economy generally, but made no specific mention of the Justice Department's American Petroleum Institute-major oil company anti-trust suit.

Oil entered the Arnold discussion when he declared "restraints of trade" are responsible for the difficulties encountered by the British industrial machine in achieving maximum war-time production. Urging the United States not to repeat England's mistakes, Mr. Arnold used the oil industry in an attempt to prove his contention that "restraints of trade" are costly, even when practiced on a small scale.

Urges Dealer 'Subsidy'

Recalling that the Justice Department blocked an alleged 2c gasoline price increase in the District of Columbia last spring, Mr. Arnold said he had told a protesting United States senator—who protested the department's action—that the thing to do was to seek a direct government subsidy for marginal filling stations, rather than to permit fixing of prices. Subsidy to care for the 1 dealer in every 4 who the senator said were "living in a state of semi-starvation," would cost only $400,000 annually, Mr. Arnold asserted, whereas price fixing would cost between $4,000,000 and $10,000,000.

Cites Madison Case

A similar argument was made in the Madison oil case, Mr. Arnold stated, saying an oil company attorney had told him "they were not fixing prices; they were only putting a floor under them in order to keep independents in business who might otherwise fail—a humanitarian policy." Arnold stated his reply was that putting a floor under prices constituted an improvement on the biblical parable that bread cast upon waters returns many fold, since "the oil companies had cast a few crumbs upon the water and there had been returned to them a great big frosted cake.

"For every dollar the captive independents received, the oil companies got 5, and the result was reflected in labor costs, in farm production and in the necessity of restoring agricultural purchasing power."

Purpose of his speech, Mr. Arnold disclosed, was to "denounce representations (growing out of the pending cigarette anti-trust suit) that the Anti-Trust Division is trying to control advertising as malicious and unfounded representations which strike at the objectives of the anti-trust division and the objectives of advertisers themselves.

"In the tobacco suit, the department charged that a demand built up by advertising has been used to coerce competitors, jobbers, and retailers, to eliminate competition and to deprive the consumer of a free market. There is no attack whatever upon the advertising of cigarettes or any attempt to stop such advertising," Arnold contended.

Richfield Fined $4500 In West Coast Oil Suit

N. P. N. News Bureau

LOS ANGELES, Oct. 26.—After entering *nolo contendere* pleas, Richfield Oil Co. was fined $4500 by Federal Judge Paul J. McCormick in the West Coast oil suit.

At the request of federal counsel, charges against the White Star Refining Co. and the Rio Grande Oil Co. were dismissed, as the former company is now defunct and the latter is a subsidiary of the Richfield Oil Co.

The only defendants in this suit that have not entered *nolo contendere* pleas, and been fined, are The Texas Co., the Tidewater-Associated Oil Co. and its subsidiary, the Seaside Oil Co. Trial for these 3 companies has been set for Feb. 10, 1941.

Venezuela Crude to be Piped To Canadian Plant from U. S.

Special to N.P.N.

TORONTO, Oct. 28.—Action of Imperial Oil, Limited, in arranging for a pipeline connection with Atlantic seaboard in the U. S. to bring Venezuelan crude to its Sarnia refinery, is expected to reduce by about 10,000 bbls. the Canadian company's takings of U. S. crude. Imperial Oil is understood to be purchasing about 40,000 bbls. or more daily of U. S. crude.

Through its parent company, Standard Oil Co. of New Jersey, Imperial Oil has arranged to pipe the Venezuelan crude from Marcus Hook, Pa., to Sarnia, 671 miles. Crude is produced in Venezuela by International Petroleum Co., South American subsidiary of Imperial.

Arriving by tanker at Marcus Hook the crude will be unloaded into tanks of Sun Oil Co., then moved through pipelines of the Susquehanna Pipe Line Co., National Transit, Northern & National Transit and Buckeye Pipe Line Co. From Cygnet, Ohio, to Port Huron, Mich., and across the St. Clair river to Sarnia, Ontario, the movement will be through Imperial's own lines.

To File Tariffs with ICC

All of the pipelines involved in the movement are understood to be common carriers and movement will be covered by tariffs filed with the U. S. Interstate Commerce Commission. Oil will be shipped under bond, therefore won't be subjected to the 21c per barrel excise tax on imported crude entering U. S. If final clearance through U. S. customs can be obtained by Dec. 1, new movement will start then.

Imperial's refinery operations are reported to be 20% above 1939, due to the war demand and increased need for quantities of aviation gasoline for the British Commonwealth Air Training Plan (See N.P.N., Oct. 16, 1940).

Running 85,000 Bbls. Daily

At its six Canadian refineries, it is estimated the company is refining 85,000 bbls. daily as against 71,000 bbls. daily in 1939. Production of aviation gasoline is about double what it was a year ago, it is unofficially reported. Sarnia refinery will probably use 10,000 bbls. daily of South American crude oil, it was said.

Two-Fold Reason

Observers believe that there was a 2-fold reason for Imperial making this arrangement. First, the dwindling production in Illinois has affected Imperial's purchases in that state; second, by continuing to take Venezuelan crude through the winter Imperial aids subsidiary, International Petroleum which has lost much of its export business because of the war. Production is increasing in the Mene Grande field in Venezuela, in which the company is heavily interested.

Taking more Venezuelan crude will mean less U. S. dollar exchange being expended by the Canadian company, which is an important consideration in all Canadian financial and commercial transactions at present.

Tire Shipments Up, Replacements Drop

N. P. N. News Bureau

NEW YORK, Oct. 28.—September shipments of automotive tires exceeded August shipments by 8.1%, reports the Rubber Manufacturers Assn.

Tire shipments in September were 4,511,664 compared with 4,173,508 in August and 5,658,126 shipped in September 1939, report said.

Original equipment shipments amounted to 1,464,925 units, the largest September shipment to automobile factories since 1928. This represents a 107.9% increase over the August figures which amounted to 704,565 units and 20.2% above September 1939 shipments of 1,218,781 units.

The large original equipment shipments more than compensated for the decline in September replacement shipments to 2,948,797 units, or 12.9% less than August replacements of 3,386,629 and 31.9% below the September 1939 shipments of 4,327,525 units.

Exports of pneumatic casings were 97,942 which compares with 82,314 for August and 111,820 for September, 1939. Production, 4,416,587 units, was 4.4% below August and 13% under September, 1939.

Half of U. S. Exports Go to British Empire

N. P. N. News Bureau

WASHINGTON, Oct. 28.—Fifty-two per cent of all U. S. exports of petroleum and its products were going to the British Empire in August, compared with a monthly average of 30.5 per cent in 1939, Commerce Department reports.

August oil exports to the British Empire were valued at $12,370,000 as against a monthly average of $9,729,000 for 1939. Commerce figures cover United Kingdom, Canada, British India, Australia, and Union of South Africa, which in 1939 took 93.5 per cent of total U. S. exports to the British Empire.

Kerosine Prices Advanced By Socony in N.Y.C.

NEW YORK, Oct. 28.—Socony-Vacuum Oil Co. Inc., has announced that effective Oct. 25, its prices for kerosine will be increased 0.3c per gal. throughout Metropolitan New York. Advance affects all methods of delivery, Socony said.

Royal Petroleum Corp. also announced that effective Oct. 25, its New York tank car price for kerosine will be increased 0.3c per gal. to 5.10c; barge price to 5c.

Protest Ickes' Oil Plan NOW, California Newspaper Urges

N. P. N. News Bureau

LOS ANGELES, Oct. 26.—Declaring that there is a move afoot in Washington, led by Secretary Ickes, to gain control of the oil industry through pretense that this is necessary in national defense, *The Bakersfield Californian* urges oil men make their protest heard before it is too late.

Text of the editorial, carried in the newspaper's issue of Oct. 2, follows:

Those interested directly in the petroleum industry do well to begin to protest now against what is obviously a Washington plan, headed by Mr. Ickes, to control that activity. The excuse at the present time for interfering is that oil must be conserved for national defense, but that is based upon pretense only. The movement was in progress long before there was a thought of the present defense program.

It will be recalled that Mr. Ickes and the President, himself, entered the arena last year in the effort to induce the voters of California to place the oil industry in the hands of a state political machine. Mr. Ickes went on the radio and Mr. Roosevelt was interviewed in behalf of the Atkinson law but the voters of California were not to be deluded. When they went to the polls they turned down the proposal by 2 to 1 but almost immediately thereafter a Federal bill was introduced inspired by Mr. Ickes and designed to give the Washington government the power that had been denied the state government. The movement has nothing to do with national defense; it is only an effort to gain more power for the Federal government, a movement that is disconcerting at this time and which should be resisted by every independent American.

President Smith of the Independent Petroleum and Consumers' Association, in a protest to Mr. Ickes, says: "Dictatorships and dictatorial methods are still repugnant to the American Republic and a matter of oil control and price-fixing, so close to their lives and means, is nothing but secretive conniving in what still has the form of a democratic government."

That is something that needs to be said and emphasized. It is important not only to the producers but consumers as well. Every owner of a car has a concern in the fate of this proposed Federal legislation. Every consumer of oil and gasoline is likewise interested. If the protest being made is vigorous enough, this great industry, one that has never called upon the government for assistance during seven years of bonus-giving, will carry on to its own best advantage and therefore to the advantage of the American people.

Oil regulation has been achieved in a measure by the decree of the oil men themselves. Producers in California are giving earnest attention to this problem at the present time; they would be willing to see adopted a fair state measure to insure regulation, but naturally they are violently opposed to the program as it was outlined last year and which was so signally beaten. They are even more vigorously opposed to the plan for Federal control and the producers should have the support of the people of the state as a whole.

Florida Gas Consumption Up

TALLAHASSEE, Oct. 26.—Florida gasoline consumption totaled 27,106,968 gals. in September, an increase of 1% over the same month of 1939, states taxing official report. Gasoline consumption in 1939 amounted to 29,015,178 gals.

Synthetic Rubber Plants Seen as Inadequate

N. P. N. News Bureau

WASHINGTON, Oct. 28.—Because private industry does not consider that synthetic rubber can replace the crude product at this time on a large-scale commercial basis, Commerce Secretary Jesse Jones predicts the government will have to build any rubber substitute plants as may be found necessary to the national defense.

Plants sufficient to supply the nation's annual rubber needs will cost several hundred million dollars, Jones says. Artificial rubber produced therein will cost 25c a pound as compared with the 18c or 20c the government is paying for crude rubber for its national defense reserve.

Hence, according to the Commerce secretary, the only justification for synthetic rubber plants is to insure an adequate supply of rubber should sources of the crude product in the Orient be cut off suddenly. Such plants would be financed either through the Defense Plant Corporation or an entirely new RFC corporation, he says.

Frederick S. Shepard Dies

Frederick S. Shepard, 60, general manager of the manufacturing department of Socony Vacuum Oil Co., Inc., in charge of Eastern refineries, died Oct. 10 at his home, 60 Paine Avenue, New Rochelle, N. Y., after a long illness.

Mr. Shepard graduated from Harvard University in 1903 and joined Socony Vacuum in the same year. He was a member of the Society of Automotive Engineers, the Westchester Country Club and the Harvard Club.

Surviving are his wife, Mrs. Pauline Shepard, and 3 children, Mrs. Bernard Dougall, Priscilla Shepard and Herbert Shepard, all of New Rochelle.

Oklahoma To Decide On 'Gas' Tax Issue On Election Day

N. P. N. News Bureau

TULSA, Oct. 26.—Oklahoma voters in the Nov. 5 elections will have before them an initiative petition, backed by the County Commissioners, which would re-allocate highway funds so as to give the greater share to the counties.

Gasoline tax revenue in Oklahoma at present is divided as follows: 3% to the tax commission for cost of collection, 70% to the state highway fund, 5% to cities and towns for streets and alleys, and 22% to counties for county roads. Counties must spend half of their 22% for Federal-aid roads.

Under terms of the initiative petition, counties would receive 48.5% of the remainder after 3% has been deducted and allocated to the tax commissioners. Cities and towns would receive 9.7% instead of the previous 5%, and the state's share would be cut from 70% to 39%. This would reduce the state's revenue, based on 1939 gasoline tax collection figures, from approximately $11,500,000 to $5,500,000. Opponents of the measure say that if the bill is adopted, either the building of state highways will have to be stopped, or gasoline and motor license taxes will have to be increased.

Under the 1939 law, which is now in effect, county commissioners are liable on their bond for double the amount of highway funds diverted. This provision is apparently eliminated in the initiative petition which states that any other law which conflicts with the terms proposed in the new bill is automatically void. Also, the provision that counties must spend one-half of their share of highway funds for Federal-aid roads is not contained in the new proposal.

New York Fuel Oil Men 'After Office Hours'

Among oil's last golfing parties of the year, was the Fuel Oil Assn. of New York. Fuel oilers, above from left to right, are: Jack Riddell, Robert Bartlett, Frank Sylvestre, James Breuil, H. B. Van Cleve, Jerry Kenlon, Harry Weinstein, and Neil Breen

THE EDITOR'S PAGE

Readers Comments and Opinions will be much Appreciated by—WARREN C. PLATT, Editor and Publisher, Penton Building, Cleveland, O.

You Vote Tuesday on— Who Will Run YOUR Oil Business

The next four years will probably be about the most important in the history of the oil industry.

In that period, decisions will be made that will largely determine, if not even absolutely fix, the fundamental character of the industry, and the nature and place of individual companies, large and small, in the economic structure of the industry, for decades to come.

Regardless of what presidential candidate wins next Tuesday, these decisions will be made, either by the natural course of events and the collective discussion and development of the oil men's thinking and acting, or by legislative enactment, or by court decision or by bureaucratic decrees; these decisions may be made at Washington, or in state government or by the oil men themselves.

Tuesday's election will determine largely HOW and BY WHOM these decisions will be made.

The presidential campaign has boiled the issues down to two which directly concern the fate of every man in this oil industry.

These two issues are—

1—Whether control of all industry and all individual activities shall be increased and centered to an unlimited extent at Washington, as has been developed so extensively these seven years by the New Deal; and

2—The personal honesty of the Third Term Candidate and his associated New Dealers; is their word good, are their methods honest and do they seek the best interests of all the people, or are they interested only in their own elevation to positions of power?

The oil industry problems of basic importance that will be met in some way in the next four years are—

1—Conservation of crude oil.

Will it be done by the states in cooperation with each other directly, or by a board or single individual at Washington as now proposed by Roosevelt and Ickes in a bill now pending in Congress?

Will conservation be held strictly to the prevention of physical waste at the well regardless of whether the market can consume the extra crude or will crude oil production be regulated on a basis of "market demand"?

If "market demand" is used, will the price level be determined by the oil producing states which presumably, will be more sympathetic to the producers and better prices, and also for the reason that the states would get more taxes; or by a bureau at Washington whose interests would naturally lie with the consumer who votes and is thought of as always preferring lower prices?

2—"Waste of a natural resource."

This is a part of the subject of conservation and has been brought to the front largely by the New Deal. The more the consumers are conscious of a need for "conservation" of oil, the more they can be made conscious of any "waste" of oil. Increasing demand, and war demand particularly, would threaten or bring higher prices and would at once raise the question of conserving supplies by restriction of "unnecessary" use.

Regardless of the oil industry's opinion as to the extent of the supply of crude oil, any great tightening of demand or rising of prices is going to raise this question of "waste" no matter who is in the White House.

At present the New Deal wants the power to declare what is "waste" in the oil industry. The New Deal is vitally interested in getting this power, not only because that would be along the line of its theory of a totalitarian government, but also because the New Deal is now in complete control of the coal industry and is trying to raise its prices, partly in response to the C.I.O. demands. In this coal control, the New Deal finds itself confronted with the highly efficient and ever more popular fuel oil. The New Deal can do little with raising coal prices in competition with a free oil burning industry.

Once government takes up the subject of "waste" of this natural resource, there will be no end to it. The proposed Roosevelt-Ickes oil control law would give a Petroleum Commissioner at Washington great power over methods of refining and of distribution.

3—The effect of labor regulations, "collective bargaining" laws and "social security," on oil marketing.

These laws and what may come from them are important in the producing field, in the refinery, pipe line and bulk terminal operations, but they threaten to be most vital, in fact revolutionary, to oil marketing.

If labor unions are continued with partisan support of government in their present arrogant, ruthless and dishonest efforts, they are eventually going to try in real earnest to "organize" oil marketing. At the moment, there are more lucrative fields that are easier of conquest.

It is easily conceivable that with a continuance of present labor "successes" with the direct aid of the New Dealers, the oil industry will be confronted with whether its dealers, or perhaps even its marketers, can be independent operating units or will they engage in some form of "collective bargaining"?

Maybe through "collective bargaining" as a "union" and to get full benefit of "social security," oil marketing units could be marshalled under supervision of the Department of Labor and the NLRB, even though the Department of Justice now says that any such collectivism is "collusion."

The possibilities of controlling an industry through its "labor" regulations and for "social security" are most considerable, especially in war time and especially in a natural resource industry whose supply is constantly declining.

At all events, no oil man should believe that the labor and social laws of the country are going to be dead as long as there are nearly a half million gasoline dealers, their employes, and 10,000 marketers and their employes and all the outlets of the major companies "unorganized" and not paying any dues to our ambitious union leaders.

The next four years will see oil's labor problems far more acute than they ever have been, especially if a wholly partisan administration is returned to office.

4—What will be the changing form of oil marketing in these next few years? Will it be developed under the free operation of the law of supply and demand and the law of the survival of the fittest?

Will such development be fostered and protected under the minimum of laws providing for free competition, or will the form of oil marketing be developed and shaped according to a new philosophy of business? Will oil marketing be allowed to develop with small selling units or will it suit the political aims of our rulers and of our labor leaders to squeeze all marketing into large units where it can be more easily controlled and "unionized"?

These are vital questions for every oil marketer. It is the opinion of NPN that, if there is no directing totalitarian government policy, oil marketing will be more and more decentralized in its management and even in its ownership; that is decentralized into units of such size that they can be easily and most efficiently managed by the men available and full advantage taken of the local standing of these managers or owners. These units will be of such size that they will attract men capable of the best management.

These units will consist of groups of retail outlets whose detail of operation will be controlled and directed according to the best marketing ideas and methods of the day. Some of these marketing units will be grouped together under a single brand and others will be grouped more loosely under the idea of each marketing its own local brand. Through these groups will be developed, by study and research, the most modern ideas of marketing and management.

These units will be largely independently owned, but some may be partly or wholly financed by a major supplier. Ownership will not be the all-important factor, but rather the degree of skill of management with which the individual

can command both the terms of his association and his profits, for each unit will be required to operate on its own showing of profit or loss.

However, any such natural development as this can be greatly influenced and even controlled, not only by the forces heretofore named, but also by the enactment of laws on competition, by their administration, by what a Department of Justice considers "violations" of anti-trust laws, as well as by the whole philosophy of government.

All matters pertaining to marketing would be basically governed by the degree of control exercised by the federal government on "conservation" and "waste" of oil as a natural resource diminishing in supply.

* * *

These are the fundamental questions concerning his own business and job, that every oil man should have on his mind as he goes to the polls this coming Tuesday. He will have to decide on one of two possible solutions or at all events treatments of these problems of his business.

Roosevelt offers to try and reach a solution to these problems from the philosophy of a highly-centralized government at Washington, a totalitarian government. His present attorney general recently boasted in a formal speech that the New Deal had finally succeeded in establishing "real government" at Washington and that at last this nation no longer consisted of 48 countries as loosely bound together as the original Confederation of States.

Roosevelt offers to take away what power there still is in the 48 states, and put it in Washington. His plan to do this to the oil industry is clearly indicated in the Roosevelt-Ickes oil control bill that would take every bit of control of conservation away from the states and place it in a Commissioner sitting at Ickes' right hand.

The evidence is great, and the admissions and even boasts are numerous, that the New Deal believes in and is seeking complete control of this nation and the detail of its peoples' lives, at Washington.

The alternative for the oil man as he casts his vote, is Willkie who says he wants as little of government from Washington as is absolutely necessary; that he wants to develop state and local government; and that he wants to free the individual, and his business, from as many restraints as possible so that he may grow according to his own initiative and ability.

* * *

As to the honesty and good faith of the two chief candidates—

The campaign has developed the many failures of Roosevelt to keep not only his platform's promises but his own promises. The campaign has developed the mis-statements of Roosevelt as to his aims and methods, from the early abandonment of the gold standard, after his frantic pledges to the contrary, through his stacking of the Supreme Court and to his latest statements as to being "drafted" by his palpably controlled Democratic convention and his more recent "non-political inspection" of munition plants, inspections that could not possibly mean more than the holding up of work as he passed by.

The oil industry has had many contacts with the New Deal, and the evidence it has thus gathered does not support any claims for truth and honesty of the New Deal.

In the labor field, oil has had the same difficulties in dealing with the many people in NLRB and other departments as other industries have, and with the same result—the New Dealers have followed the policy that the end justifies the means regardless of the means, always assuming that their conception of the end is a laudable and legal one.

In dealing with the government during NRA and the code days, the oil industry's experience was one of finding bad faith and even downright misrepresentation. It never has been explained just how and why the only section of the first oil code, that gave any power against "hot oil" disappeared completely from the code between the time the final copy was approved by the oil industry's Planning and Co-ordination Committee and the time it was signed and made law by the president. That was as raw and crooked and brazen a bit of political crookedness as we have ever heard of.

The New Deal's filing of cases against the oil industry since has not been conducive to arousing any respect for its honesty or good faith. The famous "Madison Case", turned out to be solely a question of whether a code committee was justified in pursuing a method, approved by the government, in accomplishing a code objective. The "double cross" is a mild term to apply to that case.

The present blanket case against 22 majors was filed only after effort to get the companies to offer a compromise that would put them under government supervision. Those in high position in the New Deal have been frank in their statements that they do not want to disintegrate the major oil companies, that they do not want to separate them into producing, pipeline, refining and marketing units, but only to force the majors to bring in a proposition which will put them under government control in their present form and which would not break them up into little pieces.

All this maneuvering, when considered in the light of the avowed intent of the New Deal as best expressed in the Roosevelt-Ickes oil control bill, and as stated on the filing of the last suit by the attorney general, that there "should be" oil control legislation, can lead to only one conclusion and that of bad faith.

Can the great problems of the oil industry, which are the problems of every oil man, best be worked out by an administration definitely committed to the utmost in government control and whose word is not good?

On the other hand, Willkie, as business men know, could not have risen from the ranks to high office in business except by being a man of ability and of his word. All of the many who have had contact with him, even it is said the New Dealers themselves, agree as to his honesty and straight-forwardness and as to the reliability of his word.

* * *

When each man goes to the polls Tuesday, he will either vote to put one of these men in practical actual control of his business, or he will vote to leave himself—the individual oil man—free to boss his own business.

The vote will be either for a free oil industry or one controlled by government, as no other industry has been in this country to-date.

THE CHAMP

Russell, in the Los Angeles Times.

In any emergency

Knowledge and experience that are serving the refiners of the world so well in normal times will be doubly important to this Nation in an emergency

U. O. P.'s organization constitutes a General Staff of specialists in important fields including:

Pyrolytic cracking	*Alkylation*
Pyrolytic reforming	*Isomerization*
Catalytic cracking	*Cyclization*
Catalytic reforming	*Aromatization*
Polymerization	*Dehydrogenation*

These processes are used for the production of motor fuels, including aviation gasoline of highest octane rating, and other products Among these are toluene, the base for making T. N. T., and butadiene, a base for making synthetic rubber

Universal's experience and achievements of a quarter of a century and its future developments are at the industry's service to help meet any emergency

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

Texas Quota Hikes Will Be Continued

(*Continued from Page* 13)

spirited exchange between commission members and Humble Oil & Refining Co. representatives last week during a hearing on increasing production on four Humble fields—Anahuac, Hastings, Webster, and Thompson.

Humble, represented by Hines Baker, attacked Texas methods of proration, claiming that Texas average production this year is 80,000 bbls. daily over the Bureau of Mines estimate. Col. Thompson countered with the contention that Texas production is 38,000 bbls. daily under the Bureau's estimate.

In answer to this, Mr. Baker declared that the Bureau's estimate is too high compared with actual market demand, and urged that allocation for the four Humble fields be placed on an equitable basis and the entire state's production reduced horizontally.

West Texas Producers Protest

Ira Butler, representing West Texas operators, protested against the commission allowing increased production in the Humble fields, on the basis that such production would cut Humble's takings from independent producers. Mr. Baker denied this, stating that Humble has extended its pipelines to West Texas and has placed 500,000 bbls. of West Texas oil in storage.

Pure Oil Co. last week denied contentions that too much crude is going into storage in a request for increased allowable in its Van field. Pure sought a 3500-bbl. daily increase in order to build up gasoline reserves in the Great Lakes region. Ice on the lakes and increasingly hazardous winter shipping conditions will soon make transportation difficult in that region, Pure representatives contended, and gasoline reserves should be increased.

Pure Gets Hike for Van Field

Pure's request was granted by Commissioners Smith and Sadler, the order retroactive to Oct. 16. The daily average flow in the Van field will be raised from about 8500 to 12,030 bbls. The commission, however, has taken no action on Humble's request, which would add about 40,000 barrels daily to the state's output.

Thompson Gives Views

Col. Thompson's ideas of the commission's job in oil regulation were outlined last week in a speech before the Houston Geological Society, in which he said the duties of that oil regulatory body are "limited to preventing waste in production only."

Market demand enters into oil proration only insofar as it relates to physical waste, he said.

"I know that it is desirable on the part of the operators," he said, "that all shall have a fair share of the market demand. But can one field that has a market and can produce without physical waste be reduced in its production so as to spread the demand to other fields that do not have the demand?

"In short, has the commission the authority to compel a sharing of the market where there is no question of physical waste present in the production of oil in a given pool?"

Col. Thompson has consistently advocated granting increased allowables to producers who show evidence that they have a market for more oil if allowed to produce it. Many such requests have been allowed in recent weeks, often greeted with protests from independent operators who claimed that the major companies would not buy their oil unless they had to, and that with increased production in their own fields, they don't have to. The consistent increases in individual pool quotas have tended to raise the state's production as a whole, and brought about Thompson's order for a horizontal cut over the state.

E.O.T. Still on Commission

Col. Thompson is breathing easier after a Texas Supreme Court ruling assured him of keeping his commission post when he is called into service with the Texas National Guard in November.

Attorney General Gerald Mann had ruled, on request for a decision by Gov. W. Lee O'Daniel, that state officials who are officers in the National Guard must resign their civil posts when called into active duty. The opinion raised a storm of protest over the state, and resulted in filing a test case with the state supreme court on behalf of Orville S. Carpenter, state unemployment commissioner. Many prominent attorneys, including former Gov. Dan Moody and Charles L. Black, volunteered their services to fight the Mann opinion.

The court held that Carpenter can hold his civil post as well as his commission in the guard, and that he can collect both salaries. The ruling, which applied to Col. Thompson and several other state officials, held that the officers retain their civil authority even if called out of the state on duty. Thompson is a colonel in the national guard, and as railroad commissioner has a salary approximating $7500 annually.

Had the Mann opinion been upheld, Thompson would have had to resign when he goes into the army next month and Gov. O'Daniel would have appointed a railroad commissioner to fill his unexpired term.

Petroleum Accountants Elect '41 Officers

In these officers and directors of the Petroleum Accountants Society of Oklahoma, pictured above, is vested the responsibility of bringing about the society's enlarged program for the coming year. All those shown in the above picture are directors. Virgil Marshall of Tulsa, P.A.S.O. director, is not shown.

Reading from left to right in the back row are: R. L. Rush, Sinclair Prairie Oil Co.; M. H. Massey, Stanolind Oil & Gas Co.; J. B. Bass, Continental Oil Co.; N. C. Cross, Superior Oil Corp., president; B. E. Witcheli, Phillips Pet. Co., 1st vice president. Seated are F. T. Anderson, Darby Pet. Corp., secretary-treasurer; A. W. John, Tidewater Associated Oil Co., 2nd vice president; R. B. Hansen, O. O. Owens and Associated Companies; and L. E. Tustison, Carter Oil Co.

Oct. 24 was "University of Tulsa Night" for the accountants with M. M. Hargrove of the university's School of Business Administration as principal speaker on the "History of Accounting." The University's football coaching staff presented a part of the program. Entertainment was by the "Chord Busters", barber shop quartet that has recently been acclaimed as "tops" in this section of Oklahoma.

High Court to Review Conoco Labor Dispute

N. P. N. News Bureau

WASHINGTON, Oct. 28.—Supreme Court today granted a partial review in the Continental Oil Co. case, to determine whether the National Labor Relations Board has the power to require re-instatement of two employes who had quit rather than accept a transfer from the Big Muddy, Wyo., field to the Hobbs, N. M., field, and who had since obtained other employment.

WITH THE ASSOCIATIONS

S. A. E. Group Plans Fuel-Lube Meeting At Tulsa Next Week

N. P. N. News Bureau

TULSA, Oct. 28. — "The S.A.E. in National Defense", will be the keynote paper to be presented by John A. C. Warner, New York, manager of the Society of Automotive Engineers, at its National Fuels and Lubricants meeting here, Nov. 7 and 8.

The first day's program will be given over to the discussion of diesel tractive power and the necessary fuels and lubricants for economical and efficient operation of such units. Speakers on subjects related to diesel power, include L. T. Knocke, Detroit, chief engineer, Diesel Division, Chrysler Corp.; A. T. McDonald, Peoria, Ill., design engineer, Caterpillar Tractor Co.; Warren A. Taussig, Chicago, automotive engineer, Burlington Transportation Co., and Ulric B. Bray, Los Angeles, consulting chemist.

"The S.A.E. In National Defense" will be the keynote paper presented the second day of the meeting. This paper will be presented by John A. C. Warner, New York, manager, S.A.E.

Other Papers Listed

Other papers will include those on "Rationalizing Lubricating Greases" by M. B. Chittick, Chicago, Pure Oil Co.; "Maintenance Development in Light Aircraft" by R. W. Rummel, Kansas City, Rearwin Aircraft & Engines, Inc.; and "Crankcase Oils for Heavy Duty Service" by H. R. Wolf, Detroit, General Motors Research.

Featured speaker at the Nov. 7 dinner will be William B. Stout, Dearborn, president, Stout Engineering Laboratories, Inc., who will speak on "The Second Coming of Aviation." A debate on the question "Resolved: That Higher Compression Tractor Engines Are to Be Preferred for Tractor Power Equipment" will be given at the Nov. 8 dinner session.

B. E. Sibley, Continental Oil Co., is general chairman of the committee on arrangements for the meeting.

B. E. Sibley

Virginia Jobbers Vote to Support Justice Department's Big Oil Suit

ROANOKE, Va., Oct. 25. — Action of the Department of Justice in "instituting suit against major oil companies and their subsidiaries seeking the discontinuance of unfair, oppressive and monopolistic practices in the petroleum industry" was approved in a resolution adopted by Virginia Petroleum Jobbers Assn. meeting here Oct. 23.

Virginia jobbers also approved the suits against 3 pipelines under the anti-rebating provisions of the Elkins Act and also "heartily endorsed the announced program of the National Oil Marketers Assn. insisting on rigorous enforcement of the anti-trust laws, the repeal of the Connally Act, the discontinuance of Bureau of Mines forecasts and the divorcement of marketing from production, refining and transportation of petroleum products."

The meeting heard Paul E. Hadlick, Washington, secretary of the N.O.M.A., discuss background of the anti-trust suit recently filed against the American Petroleum Institute and 22 major oil companies as well as the pipeline suits. Mr. Hadlick urged Virginia jobbers to see that their state anti-trust laws are similarly enforced.

M. B. Whiting, Clifton Forge, of Whiting Oil Co., president of the Virginia jobbers' association, was chosen as the Virginia representative on the directorate of the N.O.M.A., succeeding Wm. Earle White, Petersburg, of Delta Oil Co. Both Mr. Whiting and Mr. White are past presidents of the N.O.M.A.

As chairman of the association's legislative committee, Mr. White reported that the oil investigation, ordered by the Virginia legislature at its last session, was proceeding and making "satisfactory progress." He asked assistance from association members in furnishing certain information which had been requested by the state attorney general.

Oil Burner Institute Plans Exhibition

N. P. N. News Bureau

NEW YORK, Oct. 26.—In order "to define our proper place in the defense measures facing the country", the Oil Burner Institute this week announced plans for an Oil Burner Progress Exhibition—the first national oil burner exhibition since 1937—to be held March 17-22 at the Commercial Museum, Philadelphia.

In announcing this exhibition, C. F. Curtin, O.B.I. secretary said: "Our exhibition, which will show oil burner heating, cooking, power and air-conditioning equipment, will signalize and feature the remarkable progress made by the oil burner industry in its more than a score of years of existence."

Ray G. Whipple, speaking of this coming exhibition, said: ". . . our desire is to make this a crowning achievement in our history and progress as an industry. . . . We must have a common understanding in the development of commercial standards. The thinking and willingness to do a job exemplified by this group, during my few months in office, leaves no doubt that this will be handled with credit to your Institute."

Left to right are E. P. Bailey, National Airoil; F. H. Dewey, Gar Wood; Ray G. Whipple, Harvey-Whipple; C. F. Curtin, O.B.I. secretary; and M. A. Powers, Timken

Gasoline Stocks Reduced By G.C.R.A. Members

HOUSTON, Oct. 28. — Gulf Coast Refiners Assn. membership withdrew 256,000 bbls. of gasoline from storage during the first half of October, according to G.C.R.A. reports.

Of total withdrawals, 100,697 bbls. was aviation and 153,222 bbls. was motor fuel, report said. Crude runs had been reduced almost 1000 bbls. daily average, during the 2 weeks period.

Total gasoline stocks on the Texas-Louisiana Gulf and eastern seaboard have been reduced to about 35,000,000 bbls. during the past several weeks, report said, and of this total, G.C.R.A. membership holds only 7.7%.

Army Releases Specifications

(*Continued from page* 13)

cause no gray or black discoloration on the inside of the dish, and the residue shall not exceed 5 mg.

Sulfur content shall not exceed 0.05% by weight.

Reid vapor pressure at 100°F. shall not exceed 7 psi.

Specific gravity is not limited but it shall be determined.

Color of 100 and 91 octane fuels: blue and of a shade such that a 25 mm. stratum is not lighter than Lovibond Tintometer series 1180 blue glasses having a total blue intensity of 1.2. Color of 73-octane fuel: blue and substantially equal in color intensity to that obtained by addition of 1.0 ml. of tetraethyl lead (1.5-T Mix Ethyl Aviation Fluid) per gallon. Color of 65-octane fuel: not darker than plus 25 Saybolt.

Water tolerance: the fuel shall be substantially immiscible with water.

Gum: The accelerated gum content shall not exceed 6.0 mg./100 ml. of fuel and the precipitate shall not exceed 5 mg. (No precipitate specification for 65-octane fuel.)

The gum test, as outlined in the specifications, is severe. It is a bomb test in which an 8 oz. sample of fuel is contained in a glass bottle with strips of S. A. E. 1020 steel as a catalyst, having about 35 sq. in. of exposed surface. The bomb is charged with oxygen at 95-100 psi. pressure and immersed in a water bath for 5 hours at 208-212°F. The oxidized fuel is filtered and the filtrate evaporated in the Copper Dish.

Water tolerance is determined by shaking 80 ml. of fuel with 20 ml. of water at room temperature. After 5 min. settling the fuel and water layers must be sharply defined and neither layer shall have changed in volume by more than 2 ml.

The distillation test is conducted in accordance with the method given in Specification VV-L-791 except for the actual distillation procedure. Heat is applied and regulated so that the first drop of condensate falls from the condenser in not less than 5 nor more than 10 minutes. When the first drop falls, the receiving cylinder is moved so that the end of the condenser tube touches the side of the cylinder. Heat is then regulated so that distillation will proceed at a uniform rate of not less than 4 nor more than 5 ml. per min. When the thermometer readings are at the tabulated values the volumes of distillate are recorded.

Heat of combustion is determined in an oxygen-bomb calorimeter, the fuel being contained in a gelatin capsule with dry cotton fiber. Oxygen at 30 atmospheres pressure is used.

Refiners Pleased by Lifting Secrecy On New Aviation 'Gas' Specifications

SHREVEPORT, Oct. 28.—Secrecy surrounding official Army and Navy specification for aviation gasoline has been lifted, John C. Day, secretary of the Western Petroleum Refiners Assn., told some 100 technical and refinery men who attended the regional technical session here this week.

Mr. Day, who recently returned from Washington, said that the detailed specifications are now available from the procurement department, Wright Field, Dayton, O.

As a military secret, the specifications of aviation fuel were not generally known, and technical men showed interest in the announcement that the specifications could now be obtained.

The technical portion of the program was given over to the presentation and discussion of papers on "Cupric Chloride Slurry-Type Treatment of Cracked Distillate" by R. G. Atkinson of Amarillo, chief chemist of Shamrock Oil & Gas Corp. and on "Disposal of Refinery Wastes" by L. C. Burroughs of Houston, Shell Oil Co., Inc.

The slurry-type treating plant installed at the Shamrock refinery was used in "sweetening" various stocks at essentially the same chemical cost as was previously spent on doctor treating. This slurry-type of treatment has eliminated all vapor loss and emulsion losses and essentially all octane loss, the chemist claimed.

The chemical cost of treating pressure distillate, including cost of inhibitor and deactivator, is $0.0173 per bbl. and the cost of treating catalytic polymer is $0.0122, the Shamrock chemist said.

The problem of waste disposal is highly important from the angle of stream and to some extent atmospheric pollution, according to Mr. Burroughs. The objectives of his paper, he said, were to present practical procedure for handling refinery waste and to prevent objectionable amounts of pollutive material from the refinery.

Leon C. Grosjean, secretary of the Ark-La-Tex Division of W.P.R.A. had charge of local arrangements for the technical session.

Socony-Vacuum Awarded 'Gas' Contracts To Supply New York State and City

N. P. N. News Bureau

NEW YORK, Oct. 26.—Gasoline requirements for both New York state and New York City, will be supplied by Socony-Vacuum Oil Co., it was announced this week.

Tankwagon gasoline requirements of the state of New York, totaling approximately 3,000,000 gals. in the next 6 months, will be supplied at prices ranging from 1.0996 to 1.1655c below those paid by the state during the previous six months, according to the Department of Standards & Purchase.

Although the state had been divided into 11 zones, giving oil companies opportunity to bid on as many of them as they pleased, Socony's bid for the whole state of 5.74c per gal. for regular grade and 7.74c for Ethyl, proved lowest by weighted average of the 11 zones, a department official said.

5.41c for Tank Wagon Delivery

Socony's low bid to supply New York City's gasoline requirements for the next term, was on a flat price basis for the 6 months beginning Nov. 1. Socony bid 5.41c per gal. for tank wagon deliveries of regular grade; 2c more per gal. for Ethyl.

Colonial Beacon submitted bid of 5.59c per gal.; Shell, 6.10c; and Tide Water, 6.74c for regular. Socony also bid 5.81c per gal. for tank wagon deliveries of regular grade for the coming 12 months. During past 6 months, New York City has been paying 6.14c per gal. for regular grade.

Estimates of the Department of Purchases are that New York City will use approximately 16,000,000 gals. in the 12-month period, beginning Nov. 1, 1940.

Oil's 25-Year Club Plans November Meet

CLEVELAND, Oct. 29.—The second annual reception and banquet of the Twenty-Five Year Club of the Petroleum Industry will be held Nov. 12 at Chicago's Stevens Hotel, announces Allan Jackson, president.

Organized in 1938 by R. A. (Dick) Wotowitch for oil men with 25 or more years in the petroleum industry, there are now 260 members with combined years of service reaching 8804 years.

25 'Champ' Drivers Will Vie for Title

LOS ANGELES, Sept. 23.—"They Drive at Night", says a Hollywood film of this name. They're better than Harvard men, says Ann Sheridan.

But they also drive in the daytime. And just to prove it, 25 champion truck drivers will meet in Los Angeles Nov. 11-14 to decide who is the country's safest truck driver. The occasion will be the seventh national convention of American Trucking Assns. Inc.

The drivers are the best in their own state, and will be out for the national championship, much in the style of Roman chariot drivers. That is, they would be, if it were not for ICC safety rules, obedience to which has made these drivers "gentlemen of the highway".

Filling Station Sales Volume Doubles In 10 Years Between Taking of Census

N. P. N. News Bureau

WASHINGTON, Oct. 26. — Increases in numbers and sales of filling stations in the Rocky Mountain and Southwestern regions to levels two, three, and four times above what they were 10 years ago, are reflected in the first reports of the Census Bureau on its 1939 retail census, covering Arizona, Nevada and Wyoming.

Most striking figures are for Nevada where filling stations increased in number 200% between 1929 and 1939 and sales nearly 400%. Wyoming filling stations increased upwards of 200% in numbers and their sales more than doubled. Arizona showed increases of nearly 100% in both numbers and sales of filling stations.

Arizona filling stations numbered 1196 in 1940, 827 in 1935, and 625 in 1929. Their sales for the same years were $15,484,000; $8,513,000, and $8,185,000 respectively.

Nevada filling stations in 1940 numbered 352, as compared with 211, five years before and 116 in 1929. Filling station sales for the 3 years in question were $6,253,000, $2,464,000, and $1,351,000, respectively.

Wyoming filling stations totaled 862 in 1940 as against 499, five years ago and 238 a decade ago. Sales for those respective years were $11,547,000, $7,069,000, and $4,243,000.

A. I. M. E. Technical Session Draws About 500 Engineers

N. P. N. News Bureau

TULSA, Oct. 28. — Position taken by some state regulatory bodies of the Southwest that wider drilling patterns for producing fields tend toward greater recovery of oil, was substantiated in a highly technical paper presented here this week at the annual technical session of the Petroleum Division of the American Institute of Metallurgical and Mining Engineers.

Almost 500 engineers from the petroleum producing and refining sections of the country gathered, in Tulsa Oct. 24-26, to hear scientific papers dealing mostly with the production and to some extent the refining phases of the oil industry.

In speaking of well spacing, M. G. Cheney, Anzac Oil Co. described the results of a study made in the Sinclair-Moren pool of Young County, Texas.

After a scientific discussion of the theories and practices of well spacing, the engineer labled as "probably erroneous" early beliefs and conclusions that close well spacing is essential to effective drainage and that drilling of 4 times as many wells will double the recovery of oil per acre under certain conditions.

Praises Well-Spacing

"The old saying that 'too many cooks may spoil the broth' may well be paraphrased by the apparent truth that 'too many wells may ruin the pool' from the standpoint of producing efficiency and profits," the speaker said.

The practices of state regulatory bodies of urging 20 and 40-acre well spacing "appears well-founded," the engineer concluded.

Another technical paper that provoked much round table discussion among the engineers was one on the "Results of Tests to Measure the Compressibility of Oil-Bearing Sandstone Rock," by C. B. Carpenter and G. B. Spencer, Bartlesville, U. S. Bureau of Mines.

This paper dealt with the effects of oil withdrawals and dissolution of rock strata. Local earth "tremors" felt in Oklahoma City and "sinks" in the Lake Maracaibo basin of Venezuela and in the Santa Clara Valley of California, were attributed to heavy exhaustion of oil reserves and resultant underground reactions in discussions that followed the main paper.

Millikan Awarded Scroll

In recognition for his 20 years of active work with the A.I.M.E., C. V. Millikan of Tulsa, chief engineer for Amerada Petroleum Co., was awarded a scroll, recognizing him as an "outstanding engineer." The scroll was signed by about 150 officials of the petroleum engineers' group and was presented by Paul Weaver, Houston, Gulf Oil Corp.

Dr. E. A. Stephenson, Lawrence, Kans., professor of petroleum engineering, University of Kansas is slated for leadership of the Petroleum Division of A.I.M.E. and John R. Suman of Houston, vice-president of Humble Oil & Refining Co. is scheduled to be national president of A.I.M.E. when the engineering group holds its annual election in November. In A.I.M.E. circles, it is said that nomination to these posts is tantamount to election.

Dallas was chosen the next convention city of the petroleum engineers.

California's November Quota Set at 571,000 Barrels

LOS ANGELES, Oct. 26. — California's crude oil production quota for November was set this week at 571,000 bbls. per day by the Conservation Committee of California Oil Producers. This figure is the same as California's October quota.

U. S. Bureau of Mines' estimate demand for California was 583,000 bbls. a day. While California set quota 12,000 bbls. lower, the committee also reduced the November maximum allowance for any individual well to 151 bbls. daily, from the October maximum of 153 bbls. A corresponding reduction was made in the output of "intermediate" wells but no change was made for "marginal" producers.

Southwestern Group Re-elects Officers

N. P. N. News Bureau

TULSA, Oct. 28.—A majority of the officers of the Kansas-Oklahoma Division of the Mid-Continent Oil & Gas Assn. were re-elected at a meeting in annual session here today. In addition, a resolution was passed conferring upon R. S. Ellison, Tulsa, retiring president of Stanolind Pipe Line Co. and Stanolind Oil Purchasing Co. life membership.

The resolution expresses appreciation to Mr. Ellison for his "active interest, constructive counsel and worthy service to this association and the petroleum industry in general".

Robert S. Kerr of Oklahoma City, Kerlyn Oil Co. was re-elected president; L. G. Owen, Tulsa, Carter Oil Co., is new first vice-president. Vice-presidents re-elected include T. C. Johnson, Wichita, for Western Kansas; Carl Weiner, Chanute, for Eastern Kansas; A. W. Ambrose, Bartlesville, for Northern Oklahoma; Lloyd Noble, Ardmore, Noble Drilling Co. Inc., for southern Oklahoma; W. R. Wallace, Oklahoma City, Magnolia Petroleum Co. for Western Oklahoma. Clarel B. Mapes of Tulsa was re-elected secretary-treasurer.

C. V. Millikan Honored by A.I.M.E. at Tulsa

Receiving here the congratulations and expressions of appreciation for his 20 years of active work with the A.I.M.E. is C. V. Millikan (right), Tulsa, chief engineer for Amerada Petroleum Co. Paul Weaver, Houston (left, with the microphone around his neck), Gulf Oil Corp., presented the Tulsa engineer with a scroll recognizing him as an "outstanding engineer" and containing the signatures of some 150 officials of the Petroleum Division, A.I.M.E.

3 Compact Groups Named By Phillips

OKLAHOMA CITY, Oct. 28. — Oklahoma's Gov. Leon C. Phillips, chairman of the Interstate Oil Compact Commission this week announced the personnel of three new compact committees.

The legal committee is appointed to make a study of state proration laws and to draw up a recommended "model" law, while the engineering committee is to inquire into the principles and practices of conservation and recommend uniform proration practices. The committee on regulatory practices is charged with the job of studying the rules and regulations of state regulatory bodies and to draw up a "model" set of standards.

The legal committee is composed of Warwick M. Downing, Denver, compact representative; Harold Medill, Topeka, attorney, Kansas Corporation Commission; P. J. Hoffmaster, Lansing, compact representative and director, Michigan Department of Conservation; Carl B. Livingston, Santa Fe; R. E. Hardwicke, Fort Worth and Earl Foster, Oklahoma City, conservation attorney, Oklahoma Corp. Commission.

Personnel of the engineering committee includes Dr. F. N. Van Tuyl, Golden, Colo., Colorado School of Mines; Dr. E. A. Stephenson, Lawrence, Kans., University of Kansas; Lee S. Miller, Lansing, petroleum engineer, Michigan Department of Conservation; A. Andreas, Santa Fe, state geologist; Dr. E. DeGolyer, Dallas; and Dr. W. H. Carson, Norman, University of Oklahoma.

The committee on regulatory practices is composed of H. C. Bretschneider, Denver; T. A. Morgan, Wichita, director, Kansas Department of Conservation; F. R. Frye, Lansing, Michigan Geological Survey Division of the Department of Conservation; Mr. Livingston; Olin Culberson, Hillsboro, Democratic nominee for Texas Railroad Commissioner and W. J. Armstrong, Oklahoma City, Democratic nominee for Oklahoma Corp. Commissioner.

Louisiana Ups Allowable

NEW ORLEANS, Oct. 28.— Louisiana's Conservation Commission has added 10,342 bbls. daily to Louisiana's crude production allowable for November, increasing total to 279,973 bbls. daily. The November figure is 5973 bbls. daily above the Bureau of Mines November demand forecast.

West Virginia Oil Group Hears Tax Diversion Hit

Special to N.P.N.

CHARLESTON, W. Va., Oct. 26.—Hitting gasoline tax diversion Ernest L. Baily, state director of the office of government reports, at the third annual convention this week, of the West Virginia Petroleum Assn., said:

"Temporary diversions have a habit of becoming permanent and, after all, the time to lock the stable is when the horse is still in the stall, and the time to set up legal safeguards against diversions is when the state administration is judiciously alert to the best interests of the road system."

Resolutions Adopted

Elimination of the highway revolving fund and adoption of the "sound principle of pay-as-you-go" in financing highways was recommended in an adopted resolution. Other resolutions asked:

Submission to voters of an amendment to state constitution which would prohibit expenditure of special automotive taxes for non-highway purposes.

Continuance of the association's pledge to carry on with "added effort and vigor to promote safe travel on the highways among petroleum industry's personnel and to support any general movement for highway safety which is reasonable and practicable."

Pledge by the association to assist farmers, shippers, truckers and other highway users in seeking fair and just treatment of highway transportation.

No Favors Sought

"The petroleum industry believes that legislation and taxation should attempt to provide the greatest good to the greatest number, and the industry asks no favors," J. C. King, division manager of the Standard Oil Company of New Jersey said.

"Our industry generates more taxes in West Virginia than any other single industry and with those taxes highways are built which mean so much to the progress of the social and business life in the state.

Says Competition Needed

"Gentlemen, don't let anyone mislead you into believing that competition,—fair competition played according to Hoyle—is not good for the petroleum industry, or any other industry. Without the competitive spirit, any business would die of dry rot. Yes, I know that there are many prophets nowadays who say that if the edge is taken off competition, all that you will have to do is sit pretty and count up the fancy profits that will pour into the cash register. But things don't work out that way. Elimination or curbing of competition leads to new problems more serious than the old. The competitive method of doing business is the democratic way, the American way."

Oil Taxes Widely Used

Taxes generated by the petroleum industry, in addition, are used to pay the salaries of teachers and thousands of government workers, Mr. King added.

Dr. Paul H. Price, state geologist, spoke about contributions of oil and gas to the state's income and welfare. He placed investment in oil well drilling in West Virginia from 1860 to 1940 as $475,000,000.

"Although the peak of oil production appears to have been passed, the known reserves of oil in West Virginia recoverable by present methods are substantial, amounting to about 120,000,000 bbls. and in addition several million barrels more can be recovered by secondary recovery methods, such as water flooding and re-pressuring," he said.

Other speakers included H. A. Zeller, Huntington, chairman of the Highways Committee of the West Virginia Chamber of Commerce; Walter W. Hubbard, New York, eastern representative of the National Highway Users Conference, and C. Ray Hansen, North Canton, O., attorney and lecturer on fifth-columnists' activities.

Charles E. Hodges, managing director of the Charleston Chamber of Commerce made the welcoming address, and C. William Duncan of the Philadelphia Evening Public Ledger, was toastmaster at the banquet.

Jones Re-Elected

The association re-elected J. E. Jones, Parkersburg, Zone Manager of the Pure Oil Co., as president, and Edwin F. Patrick of Charleston, secretary. John W. Wright, Charleston, retail sales manager of the Elk Refining Co., was named vice-president.

West Virginians Re-Elect J. E. Jones

Officers of the West Virginia Petroleum Association for 1941 *are shown, reading from left to right: Edwin F. Patrick, Charleston, re-elected secretary; John W. Wright, Charleston, retail sales manager of Elk Refining Co., elected vice-president; and J. E. Jones, Parkersburg, zone manager of Pure Oil Co., re-elected president*

Texas Cities to Pay Gasoline Tax

AUSTIN, Oct. 28.—Municipalities must pay state gasoline tax of 4c the same as private purchasers, Texas Supreme Court ruled recently. Decision specifically held city of El Paso liable for tax on 70,579 gals. bought in New Mexico and used in city vehicles. Case was considered test for both cities and counties and will mean estimated $1,000,000 more in state taxes.

Ruling by Judge Richard Critz held tax is not ad valorem, income or occupational tax but an indirect excise tax. Decision overruled third court civil appeals.

Ickes' Plan 'Dormant'

WASHINGTON, Oct. 26.—Interior Department's "oil conservation plans" are dormant at the moment, Secretary Ickes told his press conference this week. In answer to a question how his "oil conservation plans" are progressing, Ickes replied: "nothing doing. Nothing doing at all."

Ralph H. Soper Dies

Ralph H. Soper, former assistant to A. W. Peake, vice-president in charge of production, Standard Oil Co. of Indiana, died Sept. 23, at Los Angeles. Mr. Soper joined Indiana Standard in 1931, after a career in the oil industry which included 10 years of foreign service.

Humble Oil Given TNT Plant Contract

N. P. N. News Bureau

WASHINGTON, Oct. 24.—War Department today announced awarding of contract totaling $11,857,000 to Humble Oil and Refining Co. for construction of a new plant at Baytown, Tex., for the manufacture of toluol, an ingredient in explosives.

New plant will be close to the present site of existing Humble plant and will be known as the Baytown ordnance works. It will cost $10,760,000. Contract also provides $1,097,000 for additional equipment in the existing Humble plant at Baytown.

Company will finance and build the plant, War Department said. Government will repay the cost of expansion over a period of 5 years, at which time Humble will have the option to purchase the property at cost less some pre-arranged rate of depreciation, or alternatively, at some negotiated sum. In event Humble does not retain the property, title will be transferred to the government.

War Department also announced it is purchasing 18,000 acres at Weldon Springs, near St. Charles, Mo., for a new TNT and DNT plant, to be operated by Atlas Powder Co., Wilmington, Del.

Florida Diesel Tax Attacked by Trucker

N. P. N. News Bureau

WASHINGTON, Oct. 28.—Acme Freight Lines has asked the Supreme Court to declare unconstitutional a Florida law levying a 7 cents per gallon tax on diesel fuel and other liquids and gases (except gasoline and kerosene) when used in motor vehicles traveling on the public highways of the state.

Acme contends the levy in question, as applied to its 7 diesel-propelled vehicles, is a burden upon interstate commerce, is not a compensatory tax for the use of the roads, and denies the freight concerned equal protection of the laws.

'Use' Tax Is Upheld

Court refused to review a case in which Stanolind Pipeline Co. has attacked as unconstitutional the 2% Oklahoma use tax act of 1937 as applied to articles of tangible personal property consisting of machinery, repair parts and other articles used to maintain its pipeline system within Oklahoma.

Refining Technology

INCLUDING INTERNATIONAL PETROLEUM TECHNOLOGY

CRACKED AVIATION FUEL

This week the operation of a Houdry catalytic cracking unit specializing in aviation fuel base meeting Army and Navy specifications for 100-octane fuel is described. The plant is a 10,000-bbl. unit, the most recent to be completed. It is located at the Paulsboro refinery of Socony-Vacuum Oil Co. where Jean Houdry started his development work for Vacuum Oil Co. in the United States 10 years ago. It replaced a 2000-bbl. unit which was the first commercial unit to be operated. This is the second plant article to appear in NATIONAL PETROLEUM NEWS. The first to appear in any publication, describing the Magnolia No. 1 unit at Beaumont, Texas, was published Aug. 23, 1939.

The ability of a cracked gasoline to meet specifications for 100-octane aviation fuel is new since catalytic cracking came into manufacturing scale production. Construction of 10 Houdry plants last year greatly increased the potential supply of 100-octane fuel. Straight-run gasoline has, until recently, been the only gasoline which could be used as an aviation fuel base.

While there is no shortage of straight-run gasoline, of course, the importance of availability of the catalytically cracked product is its higher octane number which permits reducing the percentage of iso-octane, required in most 100-octane blends. Thus, the products of selective polymerization and alkylation are made to go farther. In some instances the hydro-codimer and alkylate have been dispensed with entirely and only tetraethyl lead added to the catalytically cracked fuel to produce 100-octane fuel, it has been reported. In the light of evidence such as this it is obvious that it is unnecessary to stop at 100-octane fuel except insofar as standardization is essential.

* * *

Advances continue to be made in the catalytic cracking process. One of the most significant as far as high-octane aviation fuel is concerned is the recent availability of synthetic catalyst. One Houdry unit has been operating only a few weeks with this new catalyst and a second is being changed over. When the Paulsboro unit is eventually changed over to synthetic catalyst its rate of output of aviation base fuel can be increased greatly. Also there is expected to be a gain in octane number and a reduction in the percentage of unsaturates in the gasoline.

Presence of comparatively large percentages of unsaturated compounds in thermally cracked gasoline has little or no significance to motor fuel used in our present motor cars but they have eliminated cracked gasoline from consideration as a high-octane aviation fuel base. While the catalytically cracked product also contains unsaturates, they are said to be in smaller proportions which have been reduced economically to specified limits.

There has been controversy over the adequacy of the acid heat test, which has been used to measure undesirable unsaturates in thermally cracked gasoline, as a test for Houdry gasoline. Houdry plant engineers and operators favor raising the present acid heat limit of 20° F. for catalytically cracked gasoline and they are optimistic regarding the possibility of their point being carried eventually.

The substitution of synthetic catalyst during the coming year in Houdry plants will have the further effect of reducing the importance of the acid heat test as applied to Houdry aviation base fuel because many charge stocks will then produce products with acid heats under the present upper limit by a once-through cracking operation. However, the higher the acid heat limit, the greater the variety of charge stocks that can be cracked in once-through operation to produce finished aviation base, it has been pointed out.

* * *

DISTILLATION PATENT INVALID

Finis was written Oct. 14 on the case of the invalidated Lewis side stream stripper patent filed seven years ago by Atlantic Refining Co. against James B. Berry Sons' Co. On that day the U. S. Supreme Court denied the second petition filed by Atlantic for write of certiorari. The case had considerable significance to fractional distillation practice because of the wide use of distillation methods claimed to be an infringement on patent No. 1,680,421.

A considerable number of companies lined up with Berry to fight the case and Atlantic was backed by Standard Oil Development Co., Standard of Indiana, and for a time, Foster Wheeler Corp., all of whom had pooled 140-odd patents and formed the Petroleum Distillation Corp. The above named patent was one of three selected for a test case. The other two, Nos. 1,746,198 and 1,756,032, were found invalid by the circuit court in 1937.

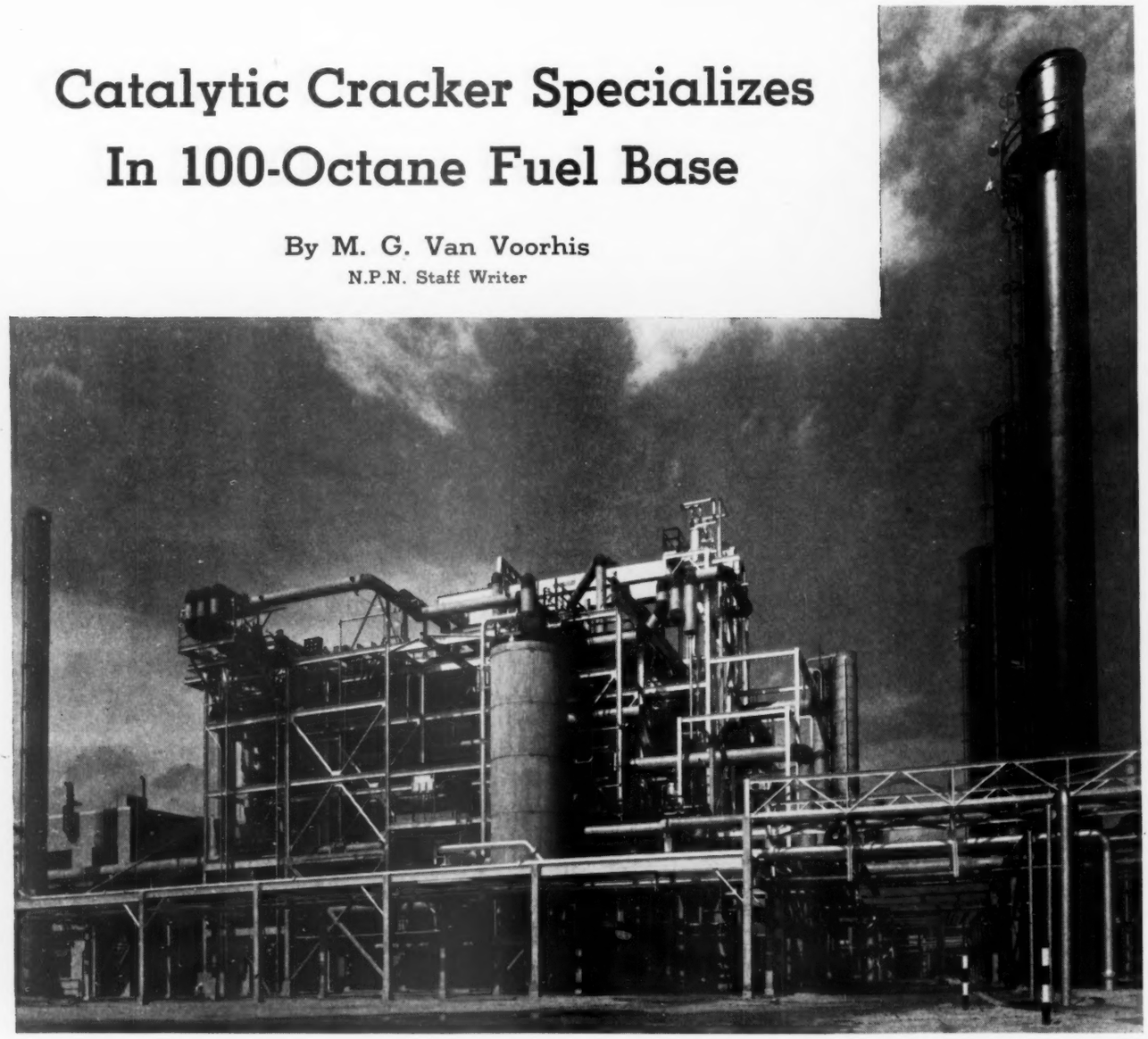
The case has had decisions favorable to both sides as it was carried from the District Court of Western Pennsylvania through the Circuit Court of Appeals, and finally to the Supreme Court. The Circuit Court twice sustained the patent, reversing the decision of the District Court, and found infringement, but upon a second petition for rehearing the court reversed itself and found the patent invalid.

Supreme Court appeal first asked a review of the decision on its merits and, when this was denied, a second petition raised the point that the final order of the Circuit Court of Appeals was a nullity because of the death of Judge Dickinson, who had sat during the argument of the case, before its entry.

Original defense sought to show that the Lewis patent merely combined a series of old and well known steps and thus contributed no new idea. When the Circuit Court first reversed the trial court it was held that the production of several streams from one distillation unit constituted novelty, in that one still and tower could completely distill petroleum, and therefore a new result was obtained. Further details of the case appeared in NATIONAL PETROLEUM NEWS, Oct. 18, 1939, p. R-440, and Dec. 29, 1937, p. 9.

Catalytic Cracker Specializes In 100-Octane Fuel Base

By M. G. Van Voorhis
N.P.N. Staff Writer



This general view of the 10,000-bbl. Houdry unit of Socony-Vacuum Oil Co. at Paulsboro shows the catalyst case structure with tar separator in front. At the left is the pump and control house and on the right are stacks for the heaters

ABSTRACT

The first cracked gasoline to meet Army specifications for aviation fuel blends was produced by the Houdry catalytic cracking process. Aviation fuel base was the principal product produced by the most-recently completed Houdry plant, during its first six months of operation. This plant, which is described here, is a 10,000-bbl. unit at the Paulsboro, N. J., refinery of Socony-Vacuum Oil Co. where Jean Houdry began his development work in the U. S. 10 years ago.

This plant is capable of producing 40,000 bbls. per month of aviation fuel base for 100-octane fuels and when synthetic catalyst has been substituted for the present catalyst the rate of production will be greatly increased. Large scale production of synthetic catalyst was begun recently. All other Houdry units (at least 10) are said to be readily convertible to a similar production schedule for aviation fuel base.

High percentages of unsaturates in thermal cracked gasoline have limited aviation fuel base in the past to straight-run gasoline. While there is no scarcity of straight-run, Houdry gasoline has the advantages of high octane number, which conserves iso-octane produced either by selective polymerization or alkylation, and excellent response to tetraethyl lead.

RECENT completion of a six-month run in the production of catalytically cracked aviation fuel base by the latest addition to the group of Houdry cracking plants scattered between the East Coast and the Texas Gulf, calls attention to new possibilities in providing high-octane fuel adapted to commercial air transport and military aviation fuel needs. The construction of 10 Houdry units last year substantially increased the potential production of 100-octane aviation fuel for the United States.

The newest plant, referred to above, was built primarily for the manufacture of aviation fuel base. This 10,000-bbl. plant was completed last March for the Socony-

Vacuum Oil Co. at its Paulsboro, N. J., refinery near Philadelphia, by E. B. Badger & Sons Co. Between March 18 and Sept. 31 of this year the plant produced 9,235,000 gallons of aviation distillate, of which 6,900,000 gallons were made into finished aviation base fuel of 79.1 octane number (A.S.T.M. Motor method). Since the first week of October the plant has been producing motor fuel only.

The Paulsboro refinery, it should be recalled, is the location of the first experiments on the catalytic cracking process in the United States. This work was started in 1930 after about seven years of uncompleted development in France.

Vacuum Oil Co. built several pilot plants at Paulsboro, starting with a 20-barrel model and progressing up to 200 barrels before the company merged with Socony in 1931. While the Houdry process development was completed with the financial backing of the Sun Oil Co., Socony-Vacuum retained its interest and constructed a 2000-barrel unit at Paulsboro in 1936. Later, Socony-Vacuum engineers contributed a final touch of improved heat control to the process by the use of molten salts instead of water to remove heat from the catalyst cases. This 2000-barrel unit at Paulsboro was the first plant-size catalytic cracker but was soon followed by Sun's 15,000 barrel unit at Marcus Hook construction of which was started at about the same time.

Unsaturates Bar Cracked Fuel

While thermal cracked gasoline has made up half of the motor fuel production in recent years, it has never been acceptable as a base for high-octane fuel required in transport and military aviation. One of the reasons given for this lack of acceptance is the predominance of undesirable unsaturated hydrocarbons which will not meet Army and Navy specifications, one factor of which is the acid heat requirement. The accepted measure of unsaturated compounds in a gasoline is the acid heat test (A.S.T.M. Standard D 481—39), which is, briefly, the rise in temperature which occurs when a 150 ml. sample is shaken with 30 ml. of sulfuric acid under properly controlled conditions.

While in the past this requirement has been limited to 20°F., informed technical opinion no longer considers this a valid criticism of quality, Houdry process engineers point out. However, Houdry catalytic gasoline is being commercially produced to meet the acid heat and all other specification requirements for fighting-grade aviation fuel. Experience with the performance of catalytically cracked gasoline in aircraft is said to indicate that the old specifications for this type of fuel are not adequate as far as the performance of this new type of cracked gasoline is concerned, as Houdry gasoline is chemically different in that it contains a large proportion of the branched chain type of the paraffinic hydrocarbons, or isomers.

Some engineers familiar with aviation gasoline performance believe that an acid heat of 40° to 50° could be tolerated easily in Houdry 100-octane fuel. In this connection it is of interest to quote S. D. Heron, Ethyl Gaso-

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REFINING TECHNOLOGY
October 30, 1940

Catalytic cracking produces first cracked aviation base fuel suitable for high-output aircraft engines. Socony-Vacuum's Paulsboro unit specialized in high-octane aviation base fuel during first six months of operation. Potential production to be greatly increased by use of synthetic catalyst R-386

Natural gasoline industry progress in manufacturing is summarized. Recent developments in application of refrigeration were noted particularly in view of its abandonment in the early days of the industry R-398

National Lubricating Grease Institute starts ninth year headed by veteran lubricant sales engineer at its head. Technical committee is working on three important projects for coming year. R-400

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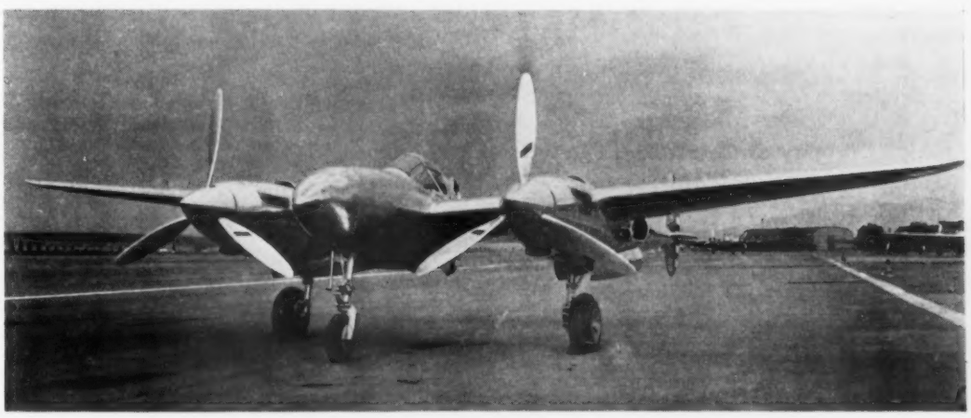


A late model Army pursuit plane, this single-place monoplane with twin boom tail and tricycle retractable landing gear, is powered by two 1000-hp. engines. A transcontinental test flight in less than 8 hours came close to the racing plane record

line Corp. engineer now serving as vice-chairman of the National Advisory Committee on Aeronautics. Mr. Heron, in discussing a paper by Peterkin, Bates, and Broom of Houdry Process Corp., presented at the annual meeting of the American Petroleum Institute in November, 1939, said, "It may be of interest to mention that the high acid heat Houdry is the only aviation gasoline tested in these (Ethyl) laboratories which has shown an octane number of 100 in the super-charged engine when blended with 4 cc. of lead and without the addition of iso-octane or a similar blending agent." Tests were made on fuels of both 48° and 14°F. acid heat.

Synthetic Catalyst Significant

Whether or not the acid heat specification is of any importance in catalytically cracked aviation fuel base, controversy on the subject is expected to end as far as Houdry gasoline is concerned when synthetic catalyst has replaced the natural catalyst in all Houdry units. A once-through cracking operation will then produce a low acid heat gasoline. One Houdry unit has already been operating on synthetic catalyst a few weeks.

In the future the use of synthetic catalyst made available by a recently completed plant for large-scale production of this material, will make it possible to produce satisfactory aviation fuel base by a once-through operation. When this change is made, both a higher yield and higher octane gasoline will be produced which will have a low percentage of unsaturates and will meet the existing acid heat specifications without any further treatment.

Houdry gasoline has a large spread between its octane numbers as measured by the Motor method and the 1939 Research method, and Houdry aviation fuel also rates three to four numbers higher by the Army method than the Motor method, Socony-Vacuum engineers declare. The Army test engine runs at double the speed of the research test engine and is a high-temperature test. As evidence of unusual stability of Houdry gasoline, one Socony-Vacuum engineer points to a sample that has been standing 4½ years in a clear glass bottle frequently exposed to sunlight, with no change in its water-white color. A 2-year record of storage in the tropics without gum formation, was also cited. Results of another stability test are shown by Table 1.

Some Houdry pilot plant results in using the synthetic catalyst for the manufacture of aviation fuel from charge stocks from typical crudes are given in Table 2. Three of the four catalytic gasolines for which results are given have acid heats below 30°F., sulfur content is only 0.01%, and octane numbers by the A. S. T. M. Motor method are close to 80 without tetraethyl lead. Three cc. of lead raises all four gasolines above 90 octane number and the Army method builds them up another notch or so. While it is too early to give reliable figures on large-scale production of aviation base with synthetic catalyst, there are indications that they will improve slightly on those from pilot plant operation, it is said. One of the interesting figures in the table is that for yield of aviation gasoline in pilot plant operation. The range from 28.9% to 39.3% volume based on the case charge is a considerable gain over past experience at Paulsboro. Adding this to the percent of motor naphtha gives some idea of the total motor fuel that can be produced in this operation. This motor naphtha, it will be observed, is also a high octane product and requires only blending with lighter products to produce a marketable motor fuel.

Of further interest in connection with cracking with the synthetic catalyst is that there is said to be a great increase in the production of isobutane over that produced when using the other catalyst, which should increase interest in alkylation for producing blending material for the aviation base fuel. For example, a 16,000-bbl. plant is producing 1100 bbls. per day of isobutane which makes up 38.8% of the gas produced by the cracking operation.

TABLE 1

Storage Stability of Catalytic Unleaded Aero Mobilgas Stored Outdoors at Paulsboro in 55-Gallon Drums*

Storage Period in Days	0	210	930
Properties			
Copper Dish Gum Mgs./100 cc.	1	2	1
Glass Dish Gum Mgs./100 cc.	..	..	1
Accelerated Gum Mgs./100 cc.	2	6	14
Octane No. A.S.T.M.	77.0	..	..
Acid Heat °F.	13	11	13

*Test conducted on production from old type catalyst. Accelerated aging tests on gasoline from new catalyst indicates stability superior to above.

TABLE 2

Houdry Pilot Plant Results Using Synthetic Catalyst for Manufacture of Aviation Fuel from Charging Stock from Typical Crudes

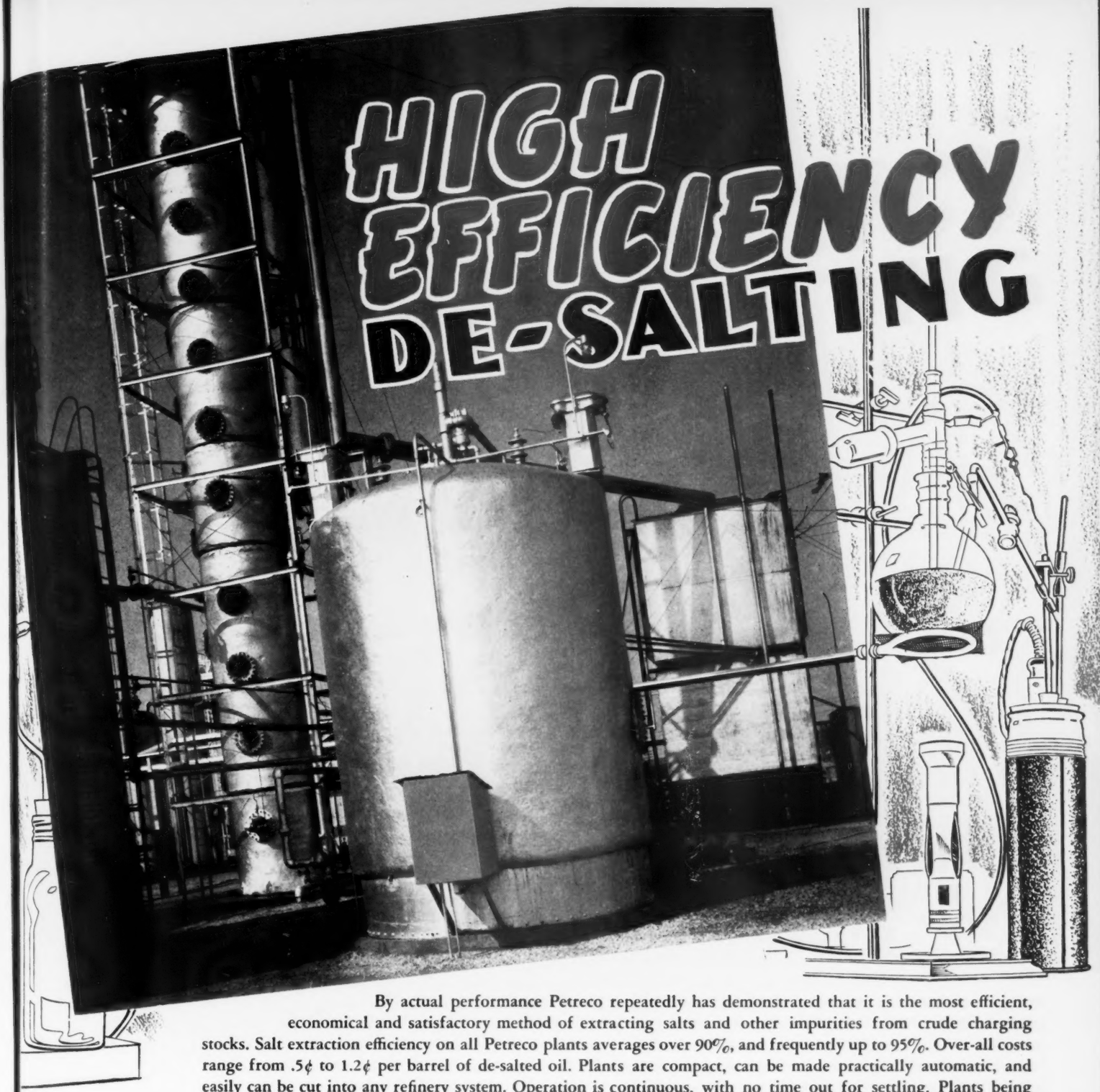
	Type Charge			
	Heavy Naphtha from Grade B Coastal Crude	Gas Oil from Grade B Coastal	Heavy Naphtha from East Tex. Crude	Gas Oil from East Texas Crude
Chg. Stock				
Gravity API	38.7	30.9	46.2	35.7
Initial Boiling Point	331	424	282	440
10%	369	486	324	484
50%	422	550	366	534
90%	480	680	424	646
Sulfur % Wt.	0.04	0.16	0.02	0.18
Yields				
Aviation Gasoline (% Vol.)	28.9	39.3	29.2	36.1
Motor Naphtha (% Vol.)	35.2	12.6	(57.8)	10.8
Gas Oil (% Vol.)	26.6	34.8	( )	39.1
Dry Gas (% Wt.)	10.5	13.1	12.5	13.7
Catalyst Deposit (% Wt.)	1.7	5.8	2.2	5.4
Inspection Products				
Aviation Gasoline				
Gravity A.P.I.	64.4	63.3	65.0	66.8
10%	135	139	132	119
50%	197	200	198	192
90%	280	280	280	280
E. P.	318	338	320	334
Recovery %	98	98	98	97
Residue %	1.0	0.7	1.0	0.9
Acid heat °F.	27*	28	25	40
Octane A.S.T.M. Motor Method	80.5	79.9	77.7	80.6
+1 cc TEL	...	80.4	....	87.6
3 cc TEL	91.8	93.0	92.5	91.1
4 cc TEL	93.5	94.8	94.5	92.5
6 cc TEL	96.5	97.3	96.6	95.0
Sulfur % Wt.	0.01	0.01	0.01	0.01
Reid Vapor Pressure	7.0	6.7	7.0	7.0
Copper Dish Gum	3.0	2	....	1
Accelerated Gum	...	6.5	4.4	2.5
Oxygen bomb, hrs.	...	10+	...	10+
Inspection Data				
Motor Naphtha				
Gravity A.P.I.	41.1	36.4	....	38.5
10%	329	318	....	331
50%	357	346	....	356
90%	391	397	....	400
Oct. (A.S.T.M.)	...	80.5	....	78
Gas Oil				
Gravity A.P.I.	30.3	25.0	42.9	32.7
10%	439	452	336	468
50%	460	497	368	505
90%	526	590	445	600

*Acid heat on actual commercial production is below 20.

Treating Run Reduces Unsaturates

The unique feature of the past six months production of aviation fuel base at Paulsboro is the fact that the aviation distillate was re-run through the same catalyst chambers, but under somewhat milder conditions than prevail during the cracking operation, to polymerize unsaturated compounds and lower acid heat. To accomplish this treating operation a sufficiently large volume of aviation distillate is stored to run for a predetermined period of time. Stabilized aviation distillate is then substituted for topped crude charged to the cracking heater and the topping heater is shut down.

The Paulsboro unit, as it operates in producing aviation fuel, cuts a light gasoline and a motor naphtha. If these products were added together it could be said that the yield of gasoline was 42-44% of the case charge. The light gasoline fraction or aviation distillate as it comes



By actual performance Petreco repeatedly has demonstrated that it is the most efficient, economical and satisfactory method of extracting salts and other impurities from crude charging stocks. Salt extraction efficiency on all Petreco plants averages over 90%, and frequently up to 95%. Over-all costs range from .5¢ to 1.2¢ per barrel of de-salted oil. Plants are compact, can be made practically automatic, and easily can be cut into any refinery system. Operation is continuous, with no time out for settling. Plants being installed in multiple units permits increasing or decreasing throughput to meet any required capacity.

Briefly, the Petreco process backed by Petreco's engineering, laboratory and field staffs of de-salting experts, provides refiners with the ultimate solution to salt problems. We invite refinery executives to write for detailed information relative to Petreco's preliminary advisory service and cooperation. No obligation is involved.

Eliminate The Trouble By Removing The Cause

PETROLEUM RECTIFYING COMPANY *of* CALIFORNIA

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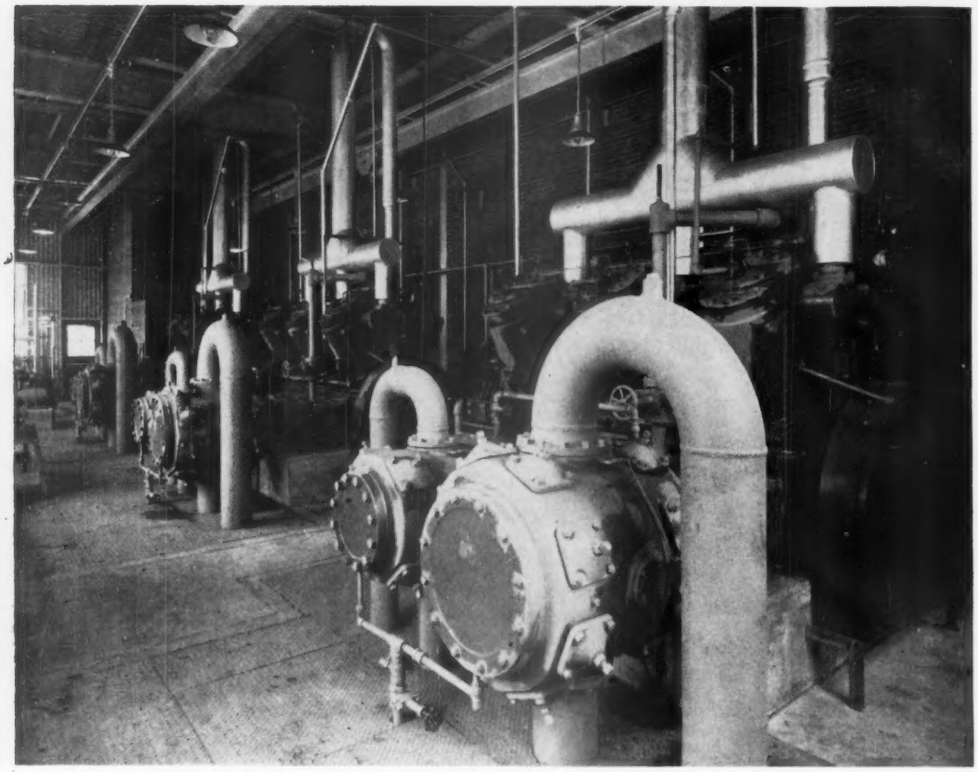
PETRECO

DE-SALTING DEHYDRATING



These three gas compressors have a capacity for 1370 cu. ft. per minute of cracked gas for the absorption system

from the unit constitutes 26% of the case charge but has a higher vapor pressure and end point than a finished base aviation fuel. It is, therefore, partially stabilized to about 9 lb. Reid vapor pressure and then catalytically treated to polymerize unsaturates. After treating and fractionation for adjustment of boiling range, the aviation base fuel represents approximately 18.5% of the case charge. At present, however, with the unit converted to the manufacture of motor gasoline since the first week of October, a yield of 46% gasoline on the case charge on a once-through basis is anticipated. The additional butane allowed by the higher vapor pressure of motor gasoline should make this yield quite possible.

Aviation distillate, light and heavy fuel distillate and motor naphtha made up 93% of the products in the cracking operation based on case charge during a typical week of the six months during which aviation fuel was produced. The 400°F. end-point motor naphtha fraction produced when manufacturing aviation gasoline has an octane number substantially equal to that of the aviation fraction and hence can be utilized in motor gasoline blends for octane improvement. In some instances special solvent naphthas have been made from this fraction.

Light fuel distillate constituted 47% or nearly double the untreated aviation distillate produced. This product is sold either as fuel oil or thermally cracked to produce motor fuel. Motor naphtha amounted to 16% during this typical week. Heavy fuel distillate made only 4% of the case charge and the remaining 7% was gas and loss. Of this latter quantity, 3% was coke removed from the catalyst cases during regeneration. These percentages are all shown on the accompanying table and flow chart.

Oil Flow

The oil flow may be followed by referring to the accompanying simplified flow chart. Principal charge stock of the Paulsboro unit is a mixture of Mirando, Grade A Coastal, and Cameron Meadows (La.) crudes, although other crudes have been included at different times. The crude oil is picked up from storage by centrifugal pumps and receives heat first by heat exchange with the light fuel oil distillate coming as a side stream from the synthetic crude tower and then from cracked products leaving the catalyst cases and passing through Leach exchangers. The crude oil reaches the topping heater at 365°F. and 100 psi. pressure. The topping heater raises the temperature of the crude of 420°F. for the crude flash tower where straight-run distillate is taken overhead and a reformer charge removed as a side stream.

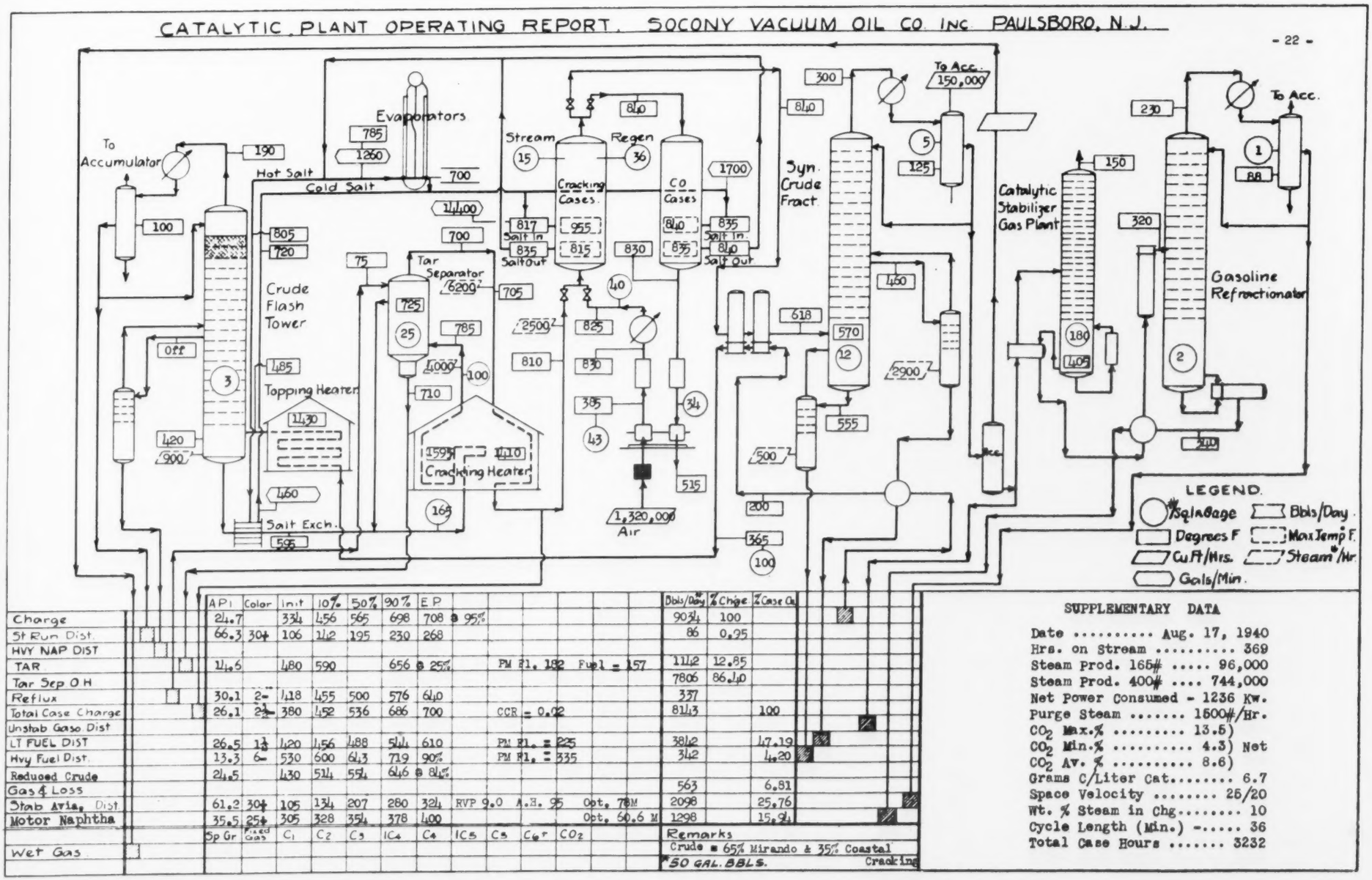
The topped crude is then pumped through the salt-to-crude exchanger, gaining a temperature of 595°F. and is pumped at a pressure of 165 psi. through one side of the Alcorn cracking heater where the temperature of the oil is raised to 785°F. From here it passes to the tar separator where asphaltic material is dropped out as heavy tar bottoms and heavy vapors are returned to the other side of the heater, along with 6200 lbs. of steam per hour, to be superheated before being charged to the cases. The charge, a material of 1.5 to 2 N.P.A. color and Conradson carbon of .02, enters the bottom of the cases at a little over 800°F., along with an additional 2500 lbs. of steam per hour, and is maintained at this temperature in the cases where the cracking reactions take place. Pressure in the cases during cracking is only 15 psi. gage.

The cracked products pass out the top of the cases and give up some of their heat, as previously stated, to the incoming crude. Passing on into the synthetic crude tower, the light and heavy fuel distillates are separated and the lighter products pass overhead at 300°F. through accumulators to a catalytic stabilizer gas plant and gasoline refractionating tower from which the partially stabilized aviation distillate is taken overhead.

Molten Salt and Air Systems

As in the Magnolia unit described a year ago in NATIONAL PETROLEUM NEWS*, a molten eutectic salt composition is employed for maintaining heat control and removing heat from the catalyst cases. Use of the molten salt made a remarkable improvement over water as a temperature control medium. The simplified salt flow system which contains 800,000 lbs. of salt is also shown on the accompanying flow chart. A flow rate of 14,400 gals. per

*Aug. 23, 1939, pp. R-346-368.



	API	Color	Init	10%	50%	90%	E P			Bbls/Day	% Chge	% Case Ch
Charge	24.7		334	456	565	698	708 @ 95%			903/4	100	
St Run Dist.	66.3	30+	106	142	195	230	268			86	0.25	
HVY NAP DIST												
TAR	14.6		480	590		656 @ 25%		PM Fl. 182	Fuel = 157	1142	12.85	
Tar Sep O H										7806	86.40	
Reflux	30.1	2-	418	455	500	576	640			337		
Total Case Charge	26.1	2½-	380	452	536	686	700	CCR = 0.02		8143		100
Unstab Gaso Dist												
LT FUEL DIST	26.5	1½	420	456	488	544	610	PM Fl. = 225		3842		47.19
Hvy Fuel Dist.	13.3	6-	530	600	643	719	90%	PM Fl. = 335		342		4.20
Reduced Crude	24.5		430	514	554	646 @ 84%						
Gas & Loss										563		6.81
Stab Avia. Dist	61.2	30+	105	134	207	280	324	RVP 9.0	A.S. 95 Opt. 78M	2098		25.76
Motor Naphtha	35.5	25+	305	328	354	378	400		Opt. 60.6 M	1298		15.94

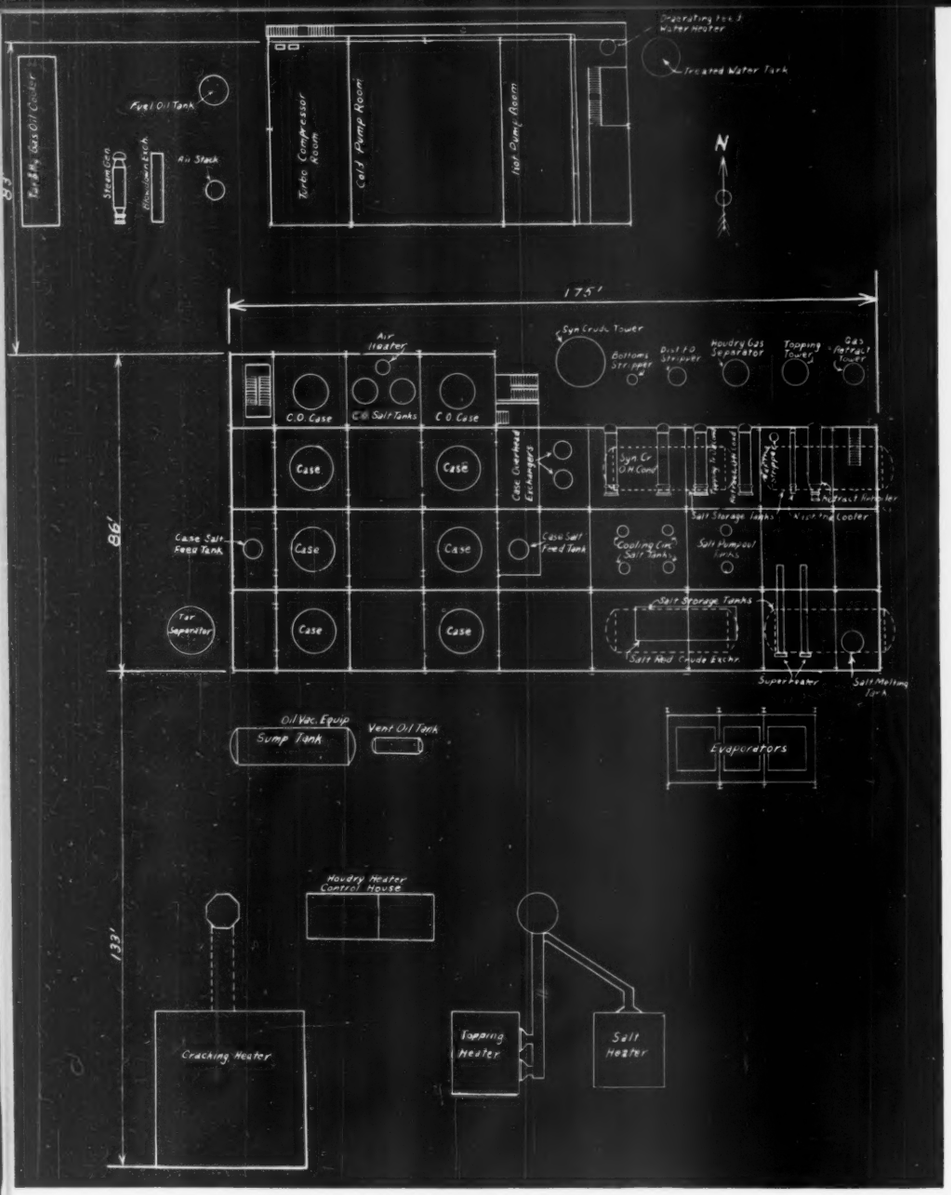
	Sp Gr	Fixed Gas	C_1	C_2	C_3	IC_4	C_4	IC_5	C_5	C_6+	CO_2
Wet Gas											

Remarks
Crude = 65% Mirando & 35% Coastal
*50 GAL. BBLS. Cracking

SUPPLEMENTARY DATA

Date ..... Aug. 17, 1940
Hrs. on Stream 369
Steam Prod. 165# 96,000
Steam Prod. 400# 744,000
Net Power Consumed - 1236 Kw.
Purge Steam ..... 1500#/Hr.
CO_2 Max.% ..... 13.5)
CO_2 Min.% ..... 4.3) Net
CO_2 Av. % ..... 8.6)
Grams C/Liter Cat..... 6.7
Space Velocity 25/20
Wt. % Steam in Chg..... 10
Cycle Length (Min.) -..... 36
Total Case Hours 3232

This simplified flow chart and table is used for regular reports on plant operation and products



A ground plan of the Paulsboro catalytic plant shows the general layout of the principal pieces of equipment at the plant

minute of salt is maintained through the catalyst cases, the heat being used for steam generation and for preheating the crude before entering the cracking heater. One of the improvements on the Paulsboro unit is the use of a vertical type evaporator or steam generator instead of the horizontal type with steam flash tank and recirculation as previously employed on other Socony Houdry units.

The regenerating air flow is also shown and amounts to 1,320,000 cu. ft. per hour. The air is drawn through filters by a Brown-Boveri turbo-compressor and is heated to case temperature before passing to the catalyst cases. Fumes leaving the cases are products of combustion of the coke deposits on the catalyst, and contain carbon dioxide, carbon monoxide, etc. These gases are passed to a combustion case where combustion is completed to carbon dioxide and water vapor. These vapors then enter the Brown-Boveri hot-gas turbine, directly coupled to the compressor of the turbo-compressor unit and supply all the power required to compress the air used in regeneration as well as supplying some additional power by the shaft-couple electric generator. This arrangement is one of the unique characteristics of all of the Houdry cracking units and is responsible for considerable saving in power requirements of the units.

Treating Operations Milder

The oil flow during the treating operation bypasses the topping heater and crude flash tower. The stabilized aviation distillate that makes up the charge goes direct to the cracking heater after picking up initial heat from the Leach exchangers. The charge circulates through the tar separator, although no separation takes place, and passes through the heater again and thence to the catalyst cases. No steam is injected into the charge for the treating operation. The case temperature is slightly lower than in the cracking operation but the principal changes are a raise in case pressure from 15 to 24 psi. and a reduction in space velocity to a little more than half that in the cracking operation. Case temperature during regeneration is considerably lower than during the cracking operation. The treated distillate passes from the catalyst cases into the fractionating tower where gases are separated from the distillate, then through the stabilizer, from which butane is drawn overhead to storage, and to the refractionator where a solvent base is separated.

The general layout of the Paulsboro plant is symmetrical with respect to location of the catalyst cases. The accompanying ground plan of the plant shows the case structure about in the center, with the condenser and exchanger structure by its side. To the north is the pump house, on the second floor of which is the control room. To the south are the cracking, topping and salt heaters. One of the accompanying photographs is a view looking north shortly after completion of the plant. In the foreground are the three Alcorn heaters. Behind the heaters to the left is the case structure and to the right the condenser and exchanger structure.

Under the gantry crane are the three salt evaporators which produce 400-lbs. steam by the heat removed from the catalyst cases by the molten salt. A more impressive view on p. R-386 looks east toward the case structure in front of which is the tar separator. The cases are not visible in this photograph but have the general appearance of the tar separator. On the left is the pump house, with the air stack in front, and on the right are the stacks for the heaters. The third stack belongs with other refining equipment adjoining the Houdry unit.

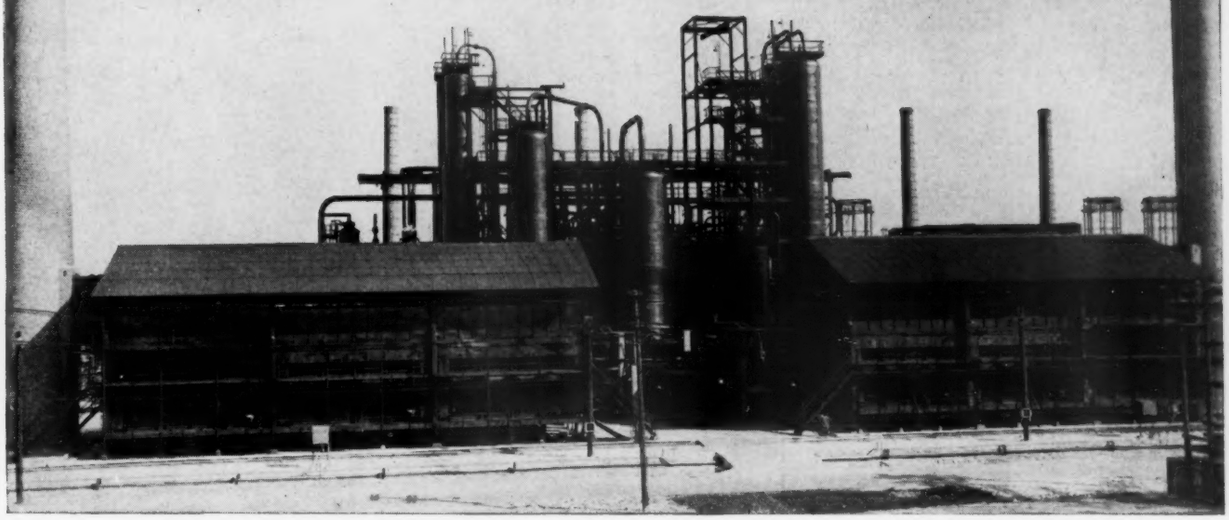
The six cracking cases, which are 10 ft. 7 in. in diameter and 38 ft. in height, are arranged with three on each side of the case structure as seen in the plot plan, with a CO case for completing the combustion of regenerating gases at the end of each row of cases.

36-Minute Operation Cycle

The Paulsboro unit operates on a 36-min. cycle. Each of the individual catalyst cases is on stream 12 min. Between on-stream periods each case has two 6-min. intervals between on-stream and regeneration periods for making valve changes and purging the cases with steam. The renegeration time is also 12 min. The cycle timer illustrated herewith in the control room is of improved design. Two vertical panels of 180 contact segments each are contacted by a traveling set of contact points which make contact on one side during the upward movement and on the other side going down. A slowly rotating screw raises and lowers the contact points. A spare contact panel is provided in case of failure and is shown behind the operator in the accompanying photograph. In front of the operator are knobs for manual control and above is the light flasher system which indicates what it taking place in each of the six catalyst cases. Two cases are kept on stream at all times and only one is removed at one time after a third

THE POLYFORM and GAS REVERSION PROCESSES

for high octane gasoline from oil stocks, butanes and propanes



One of a number of High Octane Gasoline Crude Combination Polyform Units built by Lummus during the last 5 years. These plants give regular 2,000 hour runs without difficulty from coke formation.

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PETROLEUM REFINING PLANTS

TABLE 3

Physical Properties of Charge and Finished Stabilized Aviation Fuel Base June 12, 1940

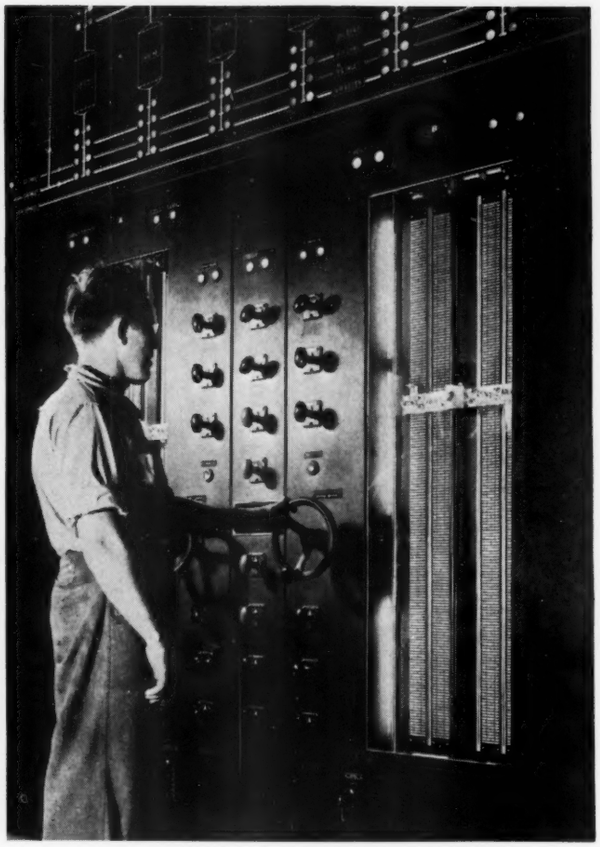
Test	Charge Untreated Aviation Distillate	Finished Aviation Fuel Base	Motor Naphtha
Gravity, A.P.I.	67.5	66.2	32.9
Color	...	30+	—10
Initial Boiling Point °F.	102	114	300
10% point °F.	126	138	312
50% point °F.	183	182	346
90% point °F.	273	260	378
End Point °F.	317	286	436
Reid vapor pressure	12.4	7.2	...
Acid heat	90	15	...
Octane number (Motor method)	...	79.1	...
With 1 cc. TEL	...	85.5	...
With 2 cc. TEL	...	89.8	...
With 3 cc. TEL	...	91.4	...

has come on stream to relieve the one going off.

The operation of the 60 electric motor-operated valves which are automatically controlled here is one of the most fascinating features of the Houdry unit operation. These valves are grouped in two central areas near the top and lower parts of the case structure in the oil, steam, and airlines which enter and leave the catalyst cases. Each valve can be operated manually if for any reason it fails to respond at the proper times. A signal in the control room indicates when such an emergency arises.

During the past seven months of operation the catalyst has not shown any signs of deterioration, according to D. L. Hooker, Paulsboro refinery superintendent.

The properties of all of the products produced in the cracking operation at Paulsboro are indicated with the flow chart. The properties of the finished treated aviation fuel base are shown by Table 3. The octane number of the finished aviation fuel base is given by the A. S. T. M. Motor method. By the Army method these figures might be one to three numbers higher, Socony-Vacuum engineers point out. Thus, by the Army method the octane number of the finished leaded aviation fuel base might be as high as 94.



The cycle timer in the control room is one of the most interesting pieces of equipment employed in Houdry plant operation

Alkylate Requirements Less

Some interesting comparisons have been made of the difference in volume of alkylate required in 100-octane aviation fuel blends when Houdry gasoline is substituted

Behind the instrument panels of the control room are the electric relay cases for controlling the motor-operated valves

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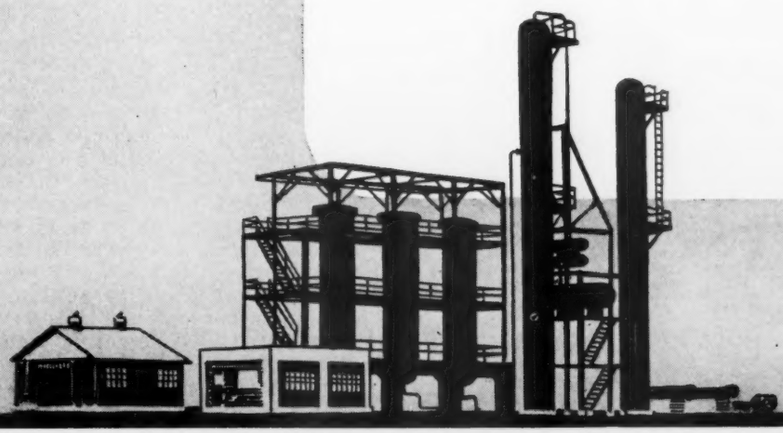

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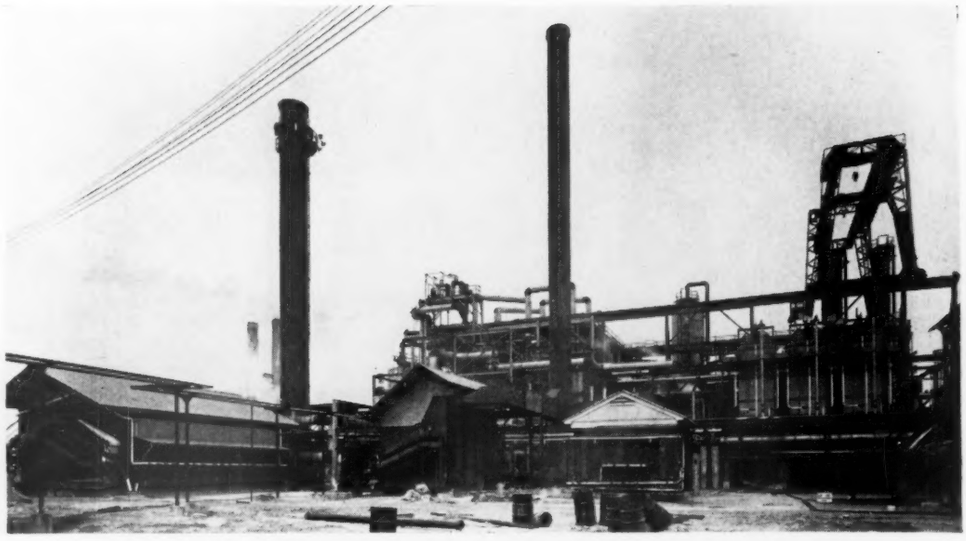


Before completion of the unit. This view shows the three heaters for cracking, topping, and salt. Under the Gantry crane, are three salt evaporators producing 400-lb. steam

for straight-run aviation base fuel. The following table shows the percentages of components in two 100-octane fuels, along with their numbers with and without 3 cc. of lead.

Aviation Blends

		Straight Run Base	Houdry Base	Houdry Base
Light Alkylate		57.7	35	45
Iso Pentane		8.8	..	..
Aviation Fuel Base		33.5	65	55
Octane Numbers				
ASTM Motor				
cc TEL	0	83.4	84.5	85.7
	3	99.1	96.9	99.5
Army				
cc TEL	3	99.9	99.7	100

The above comparison shows that much less alkylate is required for the Houdry blend. Assuming that 45% of light alkylate is the requirement for a full 100-octane fuel, the use of a Houdry base gasoline for a fixed alkylate production would mean 28% more aviation fuel than if the straight run base was used. As previously pointed out, a Houdry unit when operated with synthetic catalyst produces a large quantity of iso-butane for alkylate manufacture. This production of iso compounds runs throughout the entire gasoline and the pentane cut is predominately iso-pentane. As indicated in the table above, 100-octane fuel is produced without any iso-pentane addition but the economics controlling the addition of iso-pentane apply to Houdry blends in the same manner as for other base fuels.

TABLE 4

Properties of Blends of Catalytic Houdry Aviation Gasolines with Hydro Co-dimer and Alkylate

Material	Hydro Co-dimer	Alkylate	Catalytic Treated Aviation	Catalytic Treated Aviation	Blend 35% Vol. B 65% Vol. C	Blend 30% Vol. A 70% Vol. G
Mat'l Designation	A	B	C	G	D	H
Properties						
Gravity, °A.P.I.	65.9	70.7	66.1	65.2	68.0	65.6
R.V.P., Lb.	2.0	4.8	9.0	9.6	6.9	7.0
Acid Heat, °F.	3	2	16	21	8	16
Italian Bromine Index	....	....	2.6	3.7	1.4	....
Doctor Test	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
Mercaptan Test	Neg.	Sl. Pos.	Neg.	Neg.	Neg.	Neg.
Aniline No., °F.	....	....	110	110	132	....
Cu Dish Gum, Mgs./100cc.	1	....	2	2	1	....
Cu Dish Corrosion	Pass	....	Pass	Pass	Pass	....
Glass Dish Gum, Mgs./100cc.	Nil	Nil	Nil	Nil	1	....
Army Gum, Mgs./100cc.	....	1	4	1	3	....
Octane Nos.—CFRM						
cc. TEL—0	95.0	93.2	80.4	80.7	84.5	84.4
1	....	....	88.5	88.6	92.8	91.5
2	....	....	91.2	91.4	94.6	93.6
3	....	....	93.0	93.3	96.9	96.0
4	....	....	94.7	95.0	....	....
5	....	....	96.5	96.5	....	....
6	....	....	99.0	99.0	....	....
Army—cc. TEL—3	....	....	....	....	99.7	99.5
Distillation—ASTM °F.						
I.B.P.	190	120	103	106	110	102
10%	218	182	127	126	140	144
50%	227	220	182	187	202	209
90%	234	233	252	259	246	247
E. P.	278	260	288	289	279	279
Rec. %	98.0	98.5	98.5	98.5	98.0	98.5
Loss %	1.2	0.5	0.9	1.0	1.2	0.5

TABLE 5

Utility Requirements for Cracking Operations

Material	Units
Gas	1,100,000 cu. ft. per day
Steam	13,000 lbs. per hour of 165-lb. steam, net
Electricity	1236 Kw.
Water	6900 gallons per minute
Cooling tower	5600 gallons per minute
River water	1070 gallons per minute
Feed to steam gen.	232 gallons per minute

TABLE 6

Houdry Equipment Capacities

Sq. ft. of heat exchanger surface	13,340
Sq. ft. of condensing and cooling surface	21,838
Sq. ft. of heater tube surface	8,267
Oil pump operating capacity, gallons per minute	2,107 (2,036 on spare)
Salt pump operating capacity, gpm.	19,980 (5,980 gpm on spare)

Liquids are handled by 63 pumps ranging in capacity from 7500 gpm. down to 5.2 gpm.

Gas is compressed by three compressors having total capacity of 1370 cu. ft. per min.

Quantity of catalyst used	300,000 pounds
Quantity of salt used	800,000 pounds

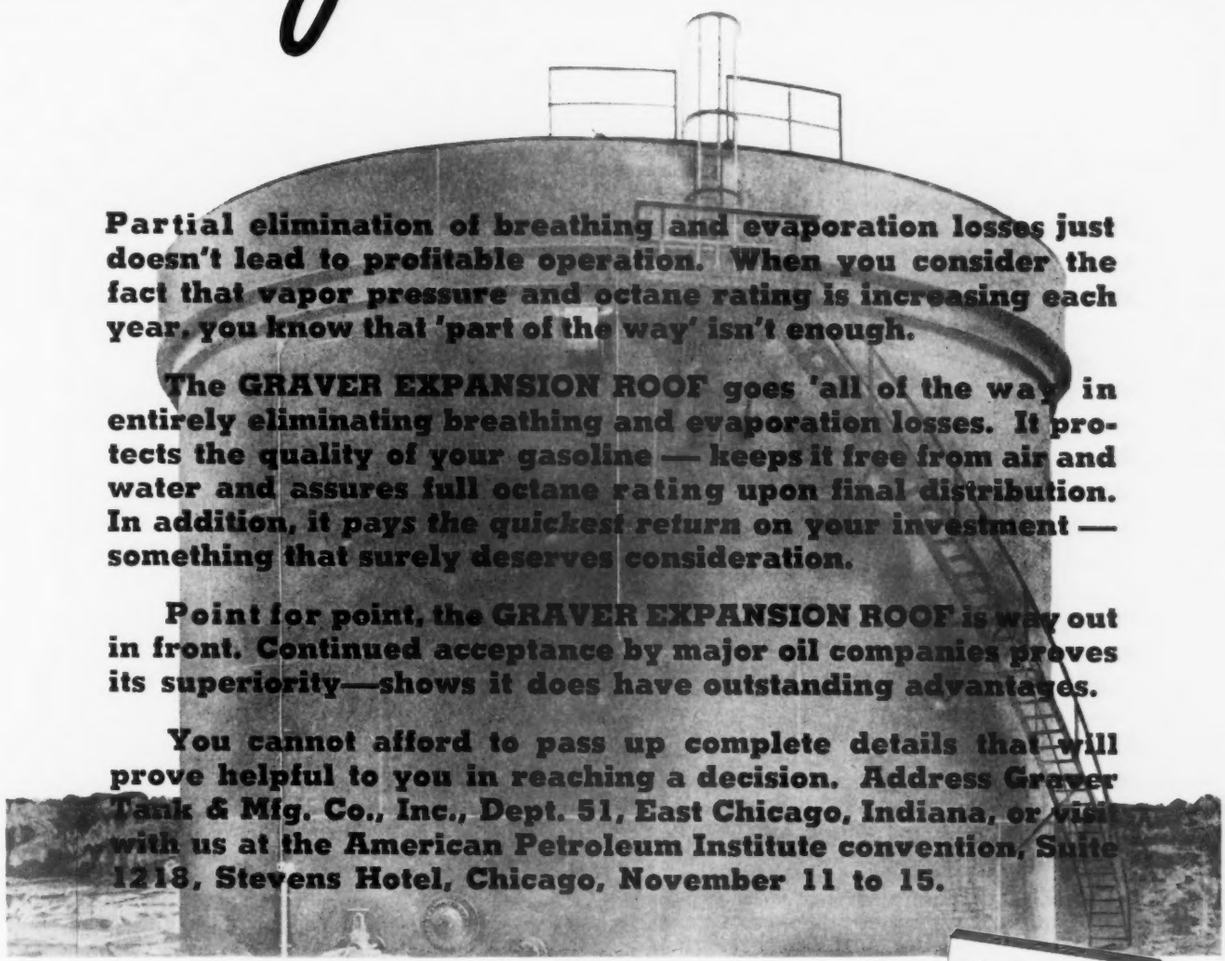
Since starting up the new 10,000-bbl. unit at Paulsboro, a 2000-bbl. unit which was the first plant-size Houdry unit built, has been shut down. While the new plant has made a specialty of producing aviation fuel base and is capable of continuous production of 40,000 bbls. or more per month, the other catalytic cracking plants which have been constructed in various parts of the country could also be converted to production of at least as much or more aviation fuel as easily as this plant which was recently shifted to motor fuel production, if an emergency arose that required larger volumes of 100-octane fuel than are now produced. As more of these catalytic plants are built, still larger potential production is made available.

While 100-octane fuel only has been considered in this article, the possibility of still higher anti-knock values has not been overlooked. Since it has been shown that 100-octane fuel can be made from Houdry gasoline with only the addition of TEL, it is obvious that higher values may be produced without great difficulty.

Acknowledgment

The author wishes to acknowledge the co-operation and valuable assistance of D. L. Hooker, superintendent of the Paulsboro refinery, C. S. Teitsworth and G. S. Dunham, Socony-Vacuum Oil Co. engineers, and G. C. Hargrove and Dr. J. S. Carey, E. B. Badger & Sons Co.

PART OF THE WAY *Just isn't enough!*



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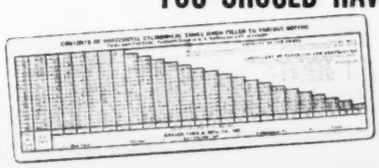
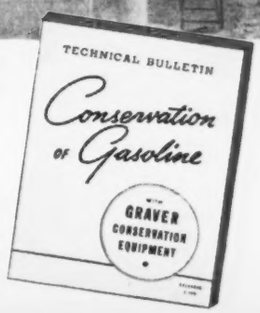


This handy scale determines the capacities of horizontal and vertical tanks. (supply is limited)



This bulletin C-100 contains important information on conservation of gasoline.

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Natural Gasoline Progress Reviewed at A.I.M.E. Meet

FIFTEEN improvements in the design and operation of gasoline plants, which have affected and in many cases improved the economical efficiency of natural gasoline plants during recent years, were summarized by William N. Roper, Western States Gasoline Corp., at the recent meeting of the Petroleum Division of the American Institute of Mining and Metallurgical Engineers in Los Angeles.

The following improvements were named:

"1. Development of efficient automatic control equipment.

"2. Operation at high pressure.

"3. Use of primary and secondary distillation units, or prerectifying units.

"4. Fired stills to eliminate steam power plants.

"5. Small continuous distillation units to maintain proper condition of absorption oil in the system.

"6. Multiple fractionating units to permit recovery of individual fractions in the lighter range.

"7. Refrigeration units for the recovery of natural gasoline, made practicable by the use of suitable de-hydrating units.

"8. Refrigeration, or sub-cooling of absorption oil with attendant increase in capacity of existing units.

"9. Refrigeration as an auxiliary aid for the recovery of lighter fractions incorporated in liquefied petroleum gas.

"10. Various systems of high pressure absorption of refrigeration for the recovery of natural gasoline or distillate in gas recycling operations.

"11. Improvements in smaller high speed gas engines for use as prime movers in small plants, or for use in minor capacities in large plants.

"12. Use of oil of low molecular weight as an absorbent.

"13. Discontinuance of burying plant lines.

"14. Presaturation of absorption oil with plant vapors.

"15. Systems for dehydration of gas to eliminate corrosion."

Roper said the recent development of refrigeration was of particular note in that it was used and discarded in the earlier days of the industry. Difficulties encountered from freezing and the formation of petroleum hydrates were responsible for discarding refrigeration years ago. Such operation is now made possible by the use of suitable materials for the de-hydration of the wet gas, or the depression of the dew-point of the water vapor in wet gas before it is subjected to the lower temperatures.

One plant of this type was said to be operating satisfactorily but no comparison has been made as to the economics of construction and operation when all equipment in such refrigeration units is provided with adequate standby equipment, as is customarily the case in modern absorption plants.

Natural gasoline production was shown to have increased from about 383,000,000 gallons to more than 2,000,000,000 gallons between 1920 and 1929, while crude oil production increased from 450,000,000 barrels to about 1,000,000,000 barrels and cracked gasoline increased from about 20,000,000 barrels to about 150,000,000 barrels.

Reviewing the economics of the natural gasoline business after 1920 Roper said the following factors were effective:

"1. Volumes of natural gasoline recovered increased by a proportion twice as great as the increase in crude oil production.

"2. New flush fields and added reserves lowered the prices of products and lessened the necessity for the refiner to cut deeply into the crude oil to supply his gasoline markets.

"3. Refiners recognized that large volumes of gasoline in the natural range were being lost from their tank farms and run tanks, and installed recovery systems.

"4. The absorption system made it possible to treat great volumes of gas of lean content.

"5. The stabilizer reduced the losses of weathering and greatly increased the volume of natural gasoline produced.

"6. Large gas pipeline systems were built to supply gas fuel to cities and industrial centers, and these lines in many cases tapped areas producing wet gas with little or no crude oil, resulting in additional volumes of natural gasoline becoming available.

"7. In some fields, large volumes of gas were produced merely for the extraction of the natural gasoline content. The dry gas was blown to the air. This practice has been discontinued.

"8. Probably the most important was the development of cracking systems capable of manufacturing the light fractions, which, while not as desirable as natural gasoline, did, nevertheless, make the refiner less dependent upon natural gasoline.

"The effect of reduction in vapor pressure of natural gasoline, the enforcement of legislation preventing the wastage of gas, the general business conditions, resulted in a decrease of natural gasoline production from 46,670,000 barrels in 1930 to 25,346,000 barrels in 1933, which has increased to 40,320,000 barrels in 1939."

Due to marketing conditions and to losses in handling and storing gasoline of high vapor pressure, it became necessary to stabilize the natural gasoline deeper by lowering the vapor pressure, Roper said, and this made it possible to recover large volumes of butanes and propane, as a by-product from the reflux stream of the stabilizer. The result was the development of the liquefied gas industry. An operation receiving much attention now is the formation of butadiene from butane, from which a synthetic rubber is manufactured.

Research and the development of newer processes have made it possible to manufacture super-fuels, having octane ratings from 90 to 125 from fractions in the liquefied petroleum gas range. These processes include aromatization, polymerization, and alkylation. Aromatization is the conversion of saturated, or natural gases to aromatics, such as benzol, toluol, zylol. The aromatics have particular significance for the production of explosiveness. Gasolines containing aromatics have high anti-knock value.

The manufacture of aviation gasoline on the Pacific Coast by alkylation was, until recent developments, limited by the volume of butylene-propylene available from refinery cracking gases, but the potential volumes of these products now made available by dehydrogenation of natural gases, or by reforming straight-run gasoline, will make possible the manufacture of larger volumes of high anti-knock gasoline, dependent upon economic conditions, such as crude reserves, price, demand, etc., Roper said.

As long as the present trend of decrease in volume of residual oil in storage and increase in volumes of motor fuel exist, there will be a trend toward the purchase by refineries of natural gasoline of lower vapor pressure which reduction in vapor pressure will increase the vol-

umes of butane which can be recovered at little additional expense.

While one well-known economist has stated that polymer gasoline may ultimately vie with cracked gasoline in volume, Roper felt that the cost of recovery, transportation, and storage of the butane and propane fractions added to the cost of the polymerization operation will be such that great changes in the economics of the petroleum business will take place before such a condition is seen.

Polymerization and alkylation processes are more readily conducted in conjunction with other refinery operations, he said, since refineries have facilities for treating the products, and have at hand the other products required for blending, the facilities for disposal or recovery of wastes and by-products, and the facilities for storage, transportation and marketing.

The cost of recovery of isobutane was discussed by reference to a California plant which spent $200,000 for additional equipment to recover 7000 gallons per day of isobutane. It was pointed out that the additional investment and expense was necessary in spite of the fact that the plant was operating on less than one-half the volume of wet gas for which it was built. Reference was made also to the statement of James Vaiden "that reliable data shows that for 95% butane recovery, an additional investment of $4 per gallon of gasoline recovered per day will be required in areas having gas rich in butane, and that this figure will be increased to $15 in most areas."

New Patents

Compiled by R. E. Burnham, patent and trade-mark attorney, 511 Eleventh Street, NW, Washington, D. C., from whom copies may be obtained at rate of 25c each. State number of patent and name of inventor when ordering.

August 27, 1940

Art of cracking hydrocarbons—O. G. Kaasa, assignor to Sinclair Refining Co. Filed Nov. 14, 1932. No. 2,212,565.

Process of making gasolines—Alois Zinke, Graz, Austria, assignor to Reichhold Chemicals, Inc., Detroit. Filed Apr. 15, 1936. No. 2,212,805.

Catalytic condensation of hydrocarbons—R. D. Pinkerton, and William Mendius, assignors to Sinclair Refining Co. Filed Feb. 18, 1939. Nos. 2,212,951 and 2,212,952.

Preparation of catalysts and their use in polymerization of hydrocarbons—Albert Wassermann, London, England. Filed Jan. 16, 1940. No. 2,212,995.

Treating hydrocarbon fluids—H. V. Atwell, assignor to Process Management Co. Filed July 29, 1938. No. 2,213,114.

Hydrocarbon oil—C. M. Loane, assignor to Standard Oil Co. (Ind.) Filed Dec. 5, 1936. No. 2,212,644.

Sulfurized lubricating oil—M. T. Flaxman, assignor to Union Oil Co. (Cal.) Filed Sept. 20, 1937. No. 2,212,899.

Antiknock fuel—F. J. Sowa, South Bend, Ind., assignor to International Engineering Corp. Filed June 22, 1938. No. 2,212,992.

September 3, 1940

Production of polymer gasoline—E. J. Houdry, assignor to Houdry Process Corp. Filed Apr. 20, 1937. No. 2,213,247.

Process of producing high antiknock motor fuels—R. F. Marschner, assignor to Standard Oil Co. (Ind.) Filed Jan. 24, 1938. No. 2,213,345.

Production of liquid fuel—T. W. Pfirrmann, Germany. Filed July 10, 1937. No. 2,213,407.

Removal of asphalt from hydrocarbon oil—C. T. Anne, assignor to Texas Co. Filed June 18, 1938. No. 2,213,798.

Process for sweetening hydrocarbon distillates—B. A. Frolov, assignor to Shell Development Co. Filed Jan. 28, 1939. No. 2,213,801.

Process and apparatus for clarifying liquids—G. E. G. von Stietz, assignor to Shell Development Co. Filed Mar. 19, 1938. No. 2,213,808.

Chlorinated synthetic resin—M. H. Arveson, assignor to Standard Oil Co. (Ind.) Filed Mar. 4, 1936. No. 2,213,331.

Hydrocarbon copolymer composition—P. F. Gaylor, Elizabeth, N. J., assignor to Standard Oil Development Co. Filed Apr. 9, 1937. No. 2,213,423.

Lubricating composition—C. F. Prutton and A. K. Smith, assignors to Lubri-Zol Development Corp. Filed Dec. 31, 1932. No. 2,213,532.

Detergent aid—L. A. Mikeska, assignor to Standard Oil Development Corp. Filed Jan. 29, 1938. No. 2,213,588.

Inhibiting agent for gasoline—A. J. Shmidl and J. M. Smith, assignors to Standard Oil Development Co. Filed Oct. 23, 1937. No. 2,213,596.

Lubricating oil—B. H. Lincoln and G. D. Byrkit, assignors to Continental Oil Co. Filed Feb. 23, 1938. No. 2,213,804.

Lubricating oil and lubrication therewith—E. W. Cook, assignor to Tide Water Associated Oil Co. Filed July 6, 1938. No. 2,213,856.

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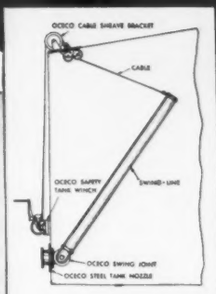

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OIL TAX NEWS

'Freak' Crude Sold Tax-Free As Motor Fuel in Minnesota

N. P. N. News Bureau

NEW YORK, Oct. 28.—Inshipment, tax-free of a volatile, high-gravity crude oil into the state of Minnesota, which is advertised for sale by its importers in some instances as high-octane tractor gasoline, has drawn the fire of a number of oil companies in that state, and petition is being circulated by the Minnesota Gasoline Retail Dealers Assn. which asks the state tax collector to require that this "crude petroleum" meet state specifications for gasoline and to collect the tax on it as such, according to word received here.

Oil Companies Protest

Brief filed in hearing before the tax commission by Charles S. Kidder, Deep Rock Oil Corp., representing all other objectors, contends that the sale of this "freak" crude is prohibited by the state inspection laws. Mr. Kidder states in his brief that this "crude petroleum" is 75% gasoline and 25% kerosine, and that it is "motor gasoline" as defined in the Minnesota law because it is a volatile and inflammable liquid used for generating power in combustion engines. However, he contends, its sale is prohibited in that it does not meet the specifications for gasoline set forth in the state inspection laws. He quoted from Section 3787-6, as follows: "No motor gasoline shall be sold in the State of Minnesota unless it is at least of the grade and specifications hereinafter set out."

Tax Collector Replies

In answer to the objectors' brief, the state tax collector says the sale of this high-gravity crude cannot be prohibited because it is not harmful to the public and prohibition would be restraint of trade. He also says it cannot be taxed because it is not generally useful in motor vehicles using the public highways. The high-gravity crude is not and would not be used on the highways, and for this reason refunds of tax would be sought by all who used it, tax collector claims.

2,300,000 Gals. Reported Sold

During the first 6 months of this year, 2,300,000 gals. of this high-gravity crude were said to have been sold in Minnesota. Mr. Kidder said he sincerely believed that if this crude petroleum was generally made available to the public, it would result in a loss of more than $2,000,000 in gasoline tax revenue to the state, "when the public became familiar with it."

Witnesses at the hearing testified that it was a "fine" tractor fuel, and testimony was given that when it was used in the place of third-grade gasoline, no adjustment of the carburetor was necessary, it was said.

None of the states surrounding Minnesota allow the tax-free sale of a product with these characteristics, and few, if any, permit it to be sold at all, according to Mr. Kidder.

Heads 'Gas' Tax Group

A. B. Tucker, Montgomery, Ala., new president of the North American Gasoline Tax Conference, has headed Alabama's gasoline tax collection activities for nine years. His title is Chief of the Gasoline Tax Division, Department of Revenue of the State of Alabama

Defense Salary Ruling Provides Tax Exemptions

WASHINGTON, Oct. 25.—Internal Revenue Bureau has ruled that salaries paid by employers during the present emergency to employes who are absent in the military or naval service, or who are serving the government in other ways at a nominal compensation, but who intend to return at the conclusion of the emergency, are allowable reductions from gross income for federal income tax purposes. (I. T. 3417.)

Gasoline Tax Bill Will Hit 1 Billion One Month Earlier

N. P. N. News Bureau

CLEVELAND, Oct. 28.—Gasoline's "Billion Dollar Breathless Moment", time designated when the nation's gasoline tax bill passes the billion-dollar mark, arrives Nov. 15, a month earlier this year, announces the American Petroleum Industries Committee.

On last year's "Billion Dollar Breathless Moment" day, motorists, truckers, service station operators and others interested in highway transportation, paused a moment at 11 A.M. to mark this occurrence.

"The red-letter day on the automobile owners' calendar will move up 1 whole month because of the enormous acceleration of gasoline tax collections in 1940," says the committee. "Gasoline tax payments this year will increase by approximately $130,000,000 over 1939 and bring the nation's gasoline tax bill for 1940 to an estimated record-breaking amount of $1,162,000,000, an increase of about 12%.

"This remarkable speeding-up of gasoline tax collections results from (1) the additional federal gasoline levy for defenses purposes, (2) a substantial increase in the number of automobiles operating on the highways, and (3) greater individual use of motor vehicles by their owners. The federal gasoline tax was increased on July 1 and it is estimated the increase will add $55,000,000 to the motorists' tax bill for the last 6 months of the year. Next year the collection of the federal gasoline tax at the new rate for a full year is expected to push

the 'Billion Dollar Breathless Moment' 2 more weeks forward on the 1941 calendar.

"Ownership of automobiles now stands about 5% ahead of last year. This greater number of automobiles has been an important factor in speeding-up gasoline tax receipts. Individual car owners have been using their cars in 1940 an average of about 3% more than in 1939. This increased use of motor vehicles by their owners has in itself advanced the 'breathless moment' about 1 week."

Huge U. S. Tax Bill Seen by Congressman

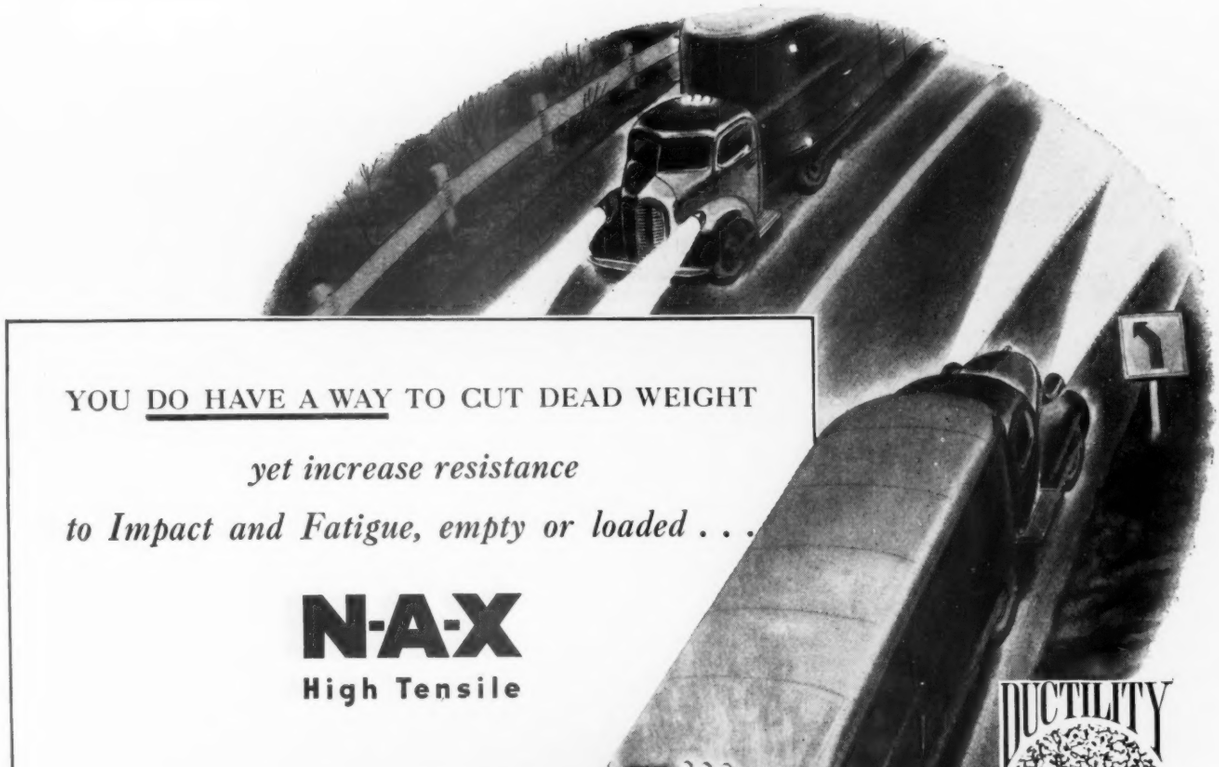
N. P. N. News Bureau

WASHINGTON, Oct. 26.—When Congress meets in January, it will be confronted with the task of enacting a general tax bill to raise not one billion, but 3, 4, 5 or 6 billion dollars or even more, according to Senator King, Utah, Democratic member of the Senate finance committee.

While declining to predict whether such legislation will mean sharply increased federal sales taxes on gasoline and lubricating oil, King declares the present excess profits tax law is only a suggestion of what is to come. Views on the likelihood of a huge general tax bill also are held by Congressman Treadway, Massachusetts, Republican House ways and means committee member, who says the excess profits law has been the "entering wedge for the most extravagant line of taxation this or any other country has ever known."

Valve Ordinance Upheld

AUSTIN, Oct. 19. — Dallas City ordinance, requiring gasoline trucks to be equipped with "reliable and efficient" shut-off valves, was upheld today by Texas Criminal Appeals Court.



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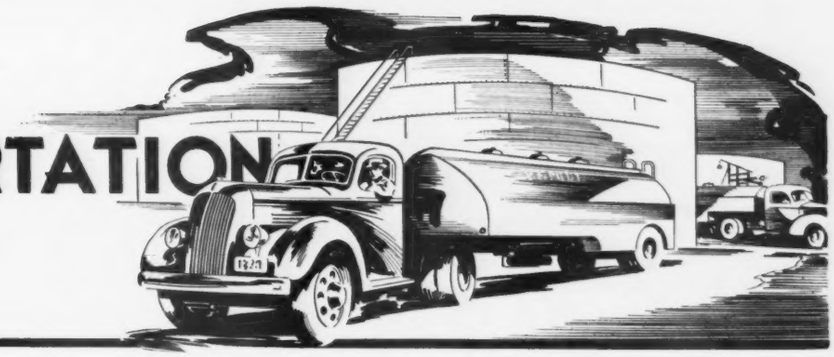

Hired Trucker Held 'Employe' Of Contractor

N. P. N. News Bureau

WASHINGTON, Oct. 25.—Ordinarily, a trucker who contracts to make deliveries for an oil company, is regarded as an "independent contractor" and the oil company is not held responsible for social security taxes on drivers of such trucks.

But there may be instances in which circumstances deprive the trucker of his "independent contractor" status and make him, and drivers paid by him, "employes" of the company for which he is making deliveries, according to a new ruling (S.S.T. 403) by the Internal Revenue Bureau.

While this ruling concerns a coal company, it may be applied to oil companies which have contracted with truckers under similar circumstances. The ruling makes the coal company liable for social security taxes on both the truck owners and the drivers employed by the latter.

Facts In Case Cited

The coal company, which the Bureau has found liable for social security taxes, enters into oral agreements with various truck owners to deliver coal on a tonnage basis. Owners may operate their trucks or engage drivers. Expenses incurred in connection with the operation of the trucks (including wages of any assistants) are borne by the truck owners.

The coal company engages dispatchers who issue instructions to the drivers with respect to the delivery of coal such as where and when to make delivery, whom to see at place of delivery, etc. Such dispatchers have authority to discharge the drivers at any time. Company requires the owner-operators and their drivers to report for duty at a specified time each day, to report when leaving the coal yards, to remain at the yards and wait for hauls, to give notice when they are unable to perform services on any particular day, and to purchase their gasoline from the company.

Drivers may be transferred by the company from one of its yards to another. Eight hours constitute the working day, but the drivers are required to remain longer if customer orders must be filled.

Public liability insurance covering the drivers is carried by the company, but the truck owners pay the premium. Although the truck owners and drivers are hired occasionally by other concerns, the services performed for the coal company constitute their main source of income.

Names of the drivers are carried on the company's payroll, and, according to the Internal Revenue Bureau, the conditions and circumstances under which they perform services are substantially similar to those under which the drivers of company-owned trucks perform their services. Agreements may be terminated at any time by either the truck owners or the company.

New Company Plans Large Oil Terminal For Chicago Canal

N. P. N. News Bureau

CHICAGO, Oct. 26. — Marine Oil Terminal Co., a new corporation, will build a 15,000,000-gallon marine terminal on the Sanitary Ship Canal, an extension of the Illinois waterway, just west of Chicago, at Cicero avenue and West Forty-first street.

New company is headed by I. L. Shurman, who is also president of Consumers Petroleum Co., a Chicago oil company whose principal business is the distribution of fuel oil.

Plant will cost about $250,000. Grading of the 8 acres of land and construction of rail facilities has been started.

Vessels now carrying petroleum producers on the inland waterways can operate in the canal. However, fixed bridges between the plant site and Lake Michigan preclude large lake tankers from servicing the terminal.

Rails Say Trainload's Cost Is Higher than Single Car

By N.P.N. Staff Writer

OKLAHOMA CITY, Oct. 26.—Interstate Commerce Commissioner Splawn and ICC Examiner Stiles left here today with a voluminous record containing additional information on trainload rates on petroleum shipped from the Southwest to northern terminal points.

This record, plus previous testimony, will be considered by the ICC in its decision in the Petroleum Rail Shippers Assn. complaint against "discriminatory" transportation charges on petroleum. Hearing, which opened here Oct. 21, was outgrowth of a recommendation by Examiner Stiles that volume rates be established from the Southwest to certain destination points. Evidence pro and con was presented on practicability of multiple-car deliveries.

Jobbers Attend Hearing

Petroleum Rail Shippers Assn. and representatives of several mid-western and northern jobber associations contended at the hearing that multiple-car shipments were practical in their operations.

Pipelines presented testimony in "justification" of what has been called "excessive" earnings on pipeline investments.

Railroads voiced their opposition to volume shipments, contending the shipment of 25 cars in a solid unbroken block would run their operating costs up above cost of transporting in single-car lots.

However, statements by ICC representatives indicated that the examiner's recommendation did not contemplate the handling of 25 cars in an unbroken block, indicating the method of movement would be left to the discretion of the rails.

Bareco Oil Co. (formerly Barnsdall) through J. C. Evans, of Tulsa, sales executive, objected to trainload rates. He contended such rates would not increase rail tonnage, but would increase refiners' distributing cost due to initial expense of erecting terminaling facilities and evaporation losses. Instead, Mr. Evans advocated reduced rates for single-car shipments.

Most other rail-shipping refiners, who testified, believed trainload shipments were practicable.

Rails Lose Oil Tonnage

Rails have been steadily losing petroleum tonnage, according to P. G. Anderson of El Dorado, Ark., traffic manager of Lion Oil Refining Co., because rail rates are higher than the traffic will bear.

"I stand with ICC Commissioner Eastman that multiple-car shipments are a substantially cheaper form of rail transportation than single-car deliveries, despite what any freight men from the rails may contend," the Lion Oil executive said.

Cites 22-Car Lot Shipments

Backing up his contentions that refiners were in position to make deliveries in solid blocks of 25-cars, the traffic man cited his company's experience recently in moving 3000 tank cars of fuel oil to the Gulf Coast in 22-car lots as suggested by the rails. Sufficient trackage could be leased from rails at both origin and destination to care for 25-car deliveries, should multiple-car rates be prescribed, he added. Cost figures for leasing additional trackage based on past experience would average about 6% of the value set up on the trackage in the tax books, the rate man said.

On cross examination by rails, the Lion traffic manager admitted he preferred "equitable" rates for application on single-car rates, rather than in 25-car lots.

"Truck-competitive" rates from northern terminal points

on in to destination, which were suspended by the ICC, should be considered in this case, Mr. Anderson said, since such rates would further increase discriminations suffered by rail shippers.

M. H. Champion, Oklahoma City, traffic manager of Anderson-Prichard Oil Corp., and president of the rail-shippers' organization pictured the independent refiners' case, as follows:

"We rail shippers are like a man on relief—we'll take anything, but we must have some relief or the independents will go out of business and rails will follow in bankruptcy. We ask for a fair rate of any kind."

Cites Coal Trainload Rate

Mr. Champion discussed trainload rates now applying on coal shipments from Fort Smith, Ark., to St. Louis, and claimed this was proof operating expenses for multiple-car shipments were cheaper than those applying to single-car hauls. He claimed coal shipped on this rate was competitive with 50% of the petroleum products his refinery makes. "We can load 50 to 60 cars at a time at either of our two refineries," he concluded.

Ray Fisher, El Dorado, Kans., traffic manager of El Dorado Refg. Co., presented detailed rail operating costs.

Tide Water Man Testifies

Rails face two alternatives in dealing with petroleum—they must either publish compensatory and "pipeline competitive" oil rates from the Southwest to the north to protect present tonnage and revenue, or failing to do this, they must resign themselves to loss of virtually all their present petroleum tonnage from the Mid-Continent, according to testimony by J. R. Lewallen, Tulsa, traffic manager of Tidewater Associated Oil Co.

Presenting exhibits on multiple-car rates now applying to other shipments, Mr. Lewallen maintained that rails can meet pipeline competition through volume rates and that it is the duty of the ICC under the law to bring this about. Rails have published reduced trainload rates for shipment of other products and it must be assumed such rates are compensatory to the rails, he concluded.

Last witness presented by rail shippers was Eugene L. Orvis, Jersey City traffic consultant, who testified regarding alleged practices of pipeline refiners in shipping unfinished gasoline to terminal storage and there "finishing" it. He contended that this practice was not provided for in pipeline tariffs filed with ICC. He presented data which he said clearly showed present pipeline rates are out of line with those charged by other pipelines which are actually common carriers.

Rails Attack Proposal

All witnesses for the railroads testified they opposed multiple-car shipments and that from an operating standpoint they were not feasible. All rail witnesses cited operating cost figures to back up their contentions that receiving and shipping 25 cars in a solid unbroken block would increase operating expenses over cost of handling single-car deliveries. They testified that trainload lots would be more expensive to handle than tonnage used as "fillers" for trains now in operation.

Harry Moreland of Kansas City, vice president of Great Lakes Pipe Line Co., cited uncertainties of pipelining and the resultant hazards to pipeline investments as "justification" of what some call "excessive" dividends. He testified that his company's earnings up to and including 1939 represented a 20% return on investment, but that 1940 returns would probably be at the rate of 17 or 18%.

Pipeline witnesses said operating conditions "justified" their 25,000-bbl. minimum tender and that smaller tenders would increase pipeline operating costs, result in contamination and would not fit into operating conditions.

Size-Weight Answers Due

N. P. N. News Bureau

WASHINGTON, Oct. 28.—Interstate Commerce Commission has postponed from Nov. 10 to 25 the deadline for motor carriers to file comments on its reports on sizes and weights.

Postponement, ICC officials explained, will give Pacific Coast truckers adequate time to prepare their comments on reports 4 and 5 dealing respectively with engineering aspects of road and bridge facilities in relation to loads placed upon them, and the legal considerations of the weights and sizes, being mailed out this week.

Commission expects to file a preliminary report with Congress early in January, in compliance with instructions to prepare recommendations on federal law covering weights and sizes, contained in the motor carrier and 1940 transportation acts.

Oil Trucking Up 23% In September

By Teletype
N. P. N. News Bureau

WASHINGTON, Oct. 28.—While total revenue freight transported by motor truck in September was 1.3% below that of September, 1939, transporters of petroleum products showed 23.4% increase over last year, according to truck loading index compiled by American Trucking Assns., Inc. Petroleum transporters accounted for more than 13% of total tonnage moved by truck.

ICC Calendar On Oil Trucking

Arthur Dillon, Portland, Oreg., (MC 60843, sub. 3), Nov. 8, Portland, on application to extend operations as a common carrier of petroleum and petroleum products in the states of Washington and Oregon, over irregular routes.

R. E. Stiff, Jr., Baker, Ore., (MC 43479, sub. 6), Nov. 2, Portland, on application to extend operations as a common carrier of petroleum products in bulk in states of Oregon, Washington, and Idaho, over irregular routes.

Nelson Brothers, Inc., (MF ICC 2, supplement 7), Nov. 12. Pueblo, Colo., on schedule of new minimum charges on petroleum from Borger and Pampa, Tex., to Colorado Springs, Colo.

Folse Drayage Co., Inc., New Orleans, La. (MC 5042, sub. 1) Nov. 2, New Orleans, on application to extend operations as a common carrier of oil field equipment, material and supplies between points located in Mississippi and Louisiana, over irregular routes, and 4 regular routes between New Orleans and Yazoo City, Meridian, Moss Point, and Jackson in Mississippi.

R. E. Stiff, Jr., Baker, Ore., (MC 43479, sub. 6), Nov. 2, Portland, on application to extend operations as a common carrier of petroleum products in bulk in Oregon, Washington, and Idaho, over irregular routes.

DECISIONS

Warren C. Marshall, Upper Darby, Pa., (MC 3003). Issuance of permit approved, upon compliance by applicant with certain conditions, to continue operations as a contract carrier of liquid petroleum products, in bulk in tank trucks, from Bayonne, Tremley Point, Sewaren, and Perth Amboy, N. J., to points in Pennsylvania; from Philadelphia, Pa., and Paulsboro, N. J., to points in Pennsylvania, New Jersey, Delaware, and Maryland; and from Baltimore, Md., to points in Pennsylvania, Delaware, Virginia, and Washington, D. C.

Arthur H. Bowen and William S. Bowen, doing business as Bowen Brothers, Revere, Mass. (MC 11918, sub. 1). Application denied to extend operations as a common carrier of petroleum products in bulk in tank trucks between points in Massachusetts, Rhode Island, New Hampshire, and Vermont, over irregular routes.

Charles A. Chipman, and Arthur W. Shaner, doing business as Trio Transportation Co. (M1290, sub. 4). Schedule of new minimum charges on petroleum products, from Bolivar, N. Y., to Farmers Valley, Pa. suspended until May 14, 1941, unless otherwise authorized by the Commission during said period.

E. L. Parker and E. R. Thomas, doing business as Parker & Thomas, (MC 12393). Schedule of new minimum charges on petroleum products between Montana, North and South Dakota, and Wyoming, suspended until May 16, 1940.

T. E. Collins, Shreveport, La., (MC 66294, sub. 4). Issuance of a certificate approved, upon compliance by applicant with certain conditions, to operate as a common carrier of machinery, materials, supplies and equipment incidental to or used in the construction, development, operation, and maintenance of facilities for the discovery, development, and production of petroleum, between points and places in Louisiana, Arkansas, Texas, Mississippi, and Alabama, over irregular routes.

Dan S. Dugan, Oakdale, Nebr., doing business as Dugan Oil and Transport Co. (MC 22195, sub. 2). Issuance of certificate approved, upon compliance by applicant with certain conditions, to operate as a common carrier of bulk petroleum products, in tank trucks, from refining and distributing points in Kansas to South Sioux City, Allen, and Ponca, Nebr., over irregular routes.

Benton Brothers Drayage and Storage Co., Savannah, Ga., (MC 61629). Issuance of certificate approved, upon compliance by applicant with certain conditions, to continue operations as a common carrier of petroleum and petroleum products, in containers, from Savannah, Ga., to Estill, S. C., and of empty containers in the reverse direction, over irregular routes.

Montgomery Transportation Co., Inc., Seminole, Tex., (MC 56057). Findings in prior report modified so as to authorize applicant to operate as a common carrier of oil-field equipment and supplies, between points on rail line, and oil-field locations in certain counties in Texas and New Mexico, over irregular routes.

Petroleum Carrier Corp., Jacksonville, Fla., (MC 63517, Sub. 5) Issuance of permit approved, upon compliance by applicant with certain conditions, to operate as a contract carrier of petroleum and petroleum products, in bulk, in tank trucks, from Pensacola and Panama City, Fla., to certain points in Alabama and Georgia, over irregular routes.

Tar Asphalt Trucking Company, Inc., Jersey City, N. J., (MC-93207). Issuance of a permit approved, upon compliance by applicant with certain conditions, to operate as a contract carrier by motor vehicle of coal tar, coal tar distillates and residue, petroleum by-products used in construction of roads, and coalkote, from Philadelphia, Pa., and New Jersey, to points in New Jersey, New York, Connecticut, and Pennsylvania, over irregular routes. Application in all other respects denied.

DECISIONS

Richard M. O'Boyle and Lillian M. O'Boyle, doing business as M. I. O'Boyle and Son, Washington, D. C. (MC 101349, sub. 1). Issuance of certificate approved, upon compliance by applicant with certain conditions, to operate as a common carrier of petroleum products from Washington, D. C., to Fairfax, Va., on shipments originating at Baltimore, Md.

Freight Bureau Seeks Uniform Toluol Rate

ST. LOUIS, Oct. 24.—A uniform set of rail rates for movement of petroleum toluol (toluene) from southwestern origins into the Southwest, Middle-West and other destination territories has been suggested in Southwestern Freight Bureau Proposal 22175.

It is proposed to establish a full line of rates on toluol 5c per hundredweight above existing commodity rates on refined oil. Shipments would be in single car lots.

Marketers Build 'Second Defense' To Replace Personnel Called in Draft

MANAGEMENT is absolutely dependent on its personnel.

At this time, marketers are building up a "second defense line" as a result of war conditions. The need for better personnel is greater than ever. Competition is greater. Margins are narrower. There is no place for incompetence anywhere along the line.

In the next few months, marketers must replace, at least temporarily, many of their good men. New men must be selected and trained. Those marketers who do the best job of it—and a good job must be done—will be the ones in best position to meet "war time" competition.

Oil companies—as part of their plans to secure a greater volume of business to counteract narrower margins—are planning bigger, better and more expensive advertising programs. Marketers who take advantage of these programs, by having men capable of intelligently following thru on the plans, will avoid some extremely tough sledding in the next few months.

It doesn't take an old man to recall the last war days. One day the nation was at peace; the next it was waving goodbye to the boys. Conditions changed overnight. Young boys, old men—and even girls—all untrained—had to fill the industrial army.

It was in those days that major companies really got down to the study of personnel in a serious way. And their development of this extremely important managerial end of oil company operations has been going steadily forward.

With incompetence magnified by the volume of today's business, there is all the more reason why smaller marketers should have a definite guide to follow in selecting personnel on a scientific basis.

The demand for skilled men exceeds the supply. There has always been a place for alert, quick-acting, forceful men. Those marketers who have selected such men have gone ahead. Many of those who did not, fell by the wayside. Others made good progress in spite of some poor personnel. They were lucky. But with changing conditions, luck is going to play a very minor role.

A recent story in NPN told of an about-face accomplished by an "Iowa plan victim." (NPN. Aug. 21, 1940, p. 24). The article told of an executive of an oil company who made the mistake of putting a man in charge of a leased station without first checking his ability to operate it. The operator made a miserable failure until he was put on the right path. The story touched briefly on 10 factors that should have been used in deciding whether or not the man should have been given the station in the first place.

This story created wide attention. Particularly with public relations and personnel managers, who are using reprints of the story in their work. This is only one indication of the widespread attention and thought that marketers are now giving the personnel problem.

As a result, NPN has made a more complete study of hiring the right kind of men, by contacting major oil companies, marketers, personnel managers and other sources. NPN's investigator put himself in the shoes of the marketer and talked to many oil companies and other authorities.

In talking with marketers, most of them were vaguely aware that there should be a definite yardstick of some kind to use in measuring the ability of their men, not only when they are hired, but also after they are on the payroll.

Other marketers wondered what system was used by the big companies in employing men. Do they use vocational guidance tests or other psychological plans? Are college men preferred? Does 40 mean "too old"? Why do the larger companies, lacking that personal contact enjoyed by the smaller marketers, seem to have a lower turnover? Will the draft affect the situation? Will "chiseling" stations have to get in line on prices when employment demands make cheap help impossible to find? What are some of the pitfalls to watch when first hiring men?

Also of particular interest to marketers are the systems used to keep men happy, contented and their efficiency developed once they are hired. As one marketer expressed it, "I would like to take a day or so off and see just what goes on in a big personnel office."

All right, we'll start with a visit to the personnel office of one of the country's largest majors. While this office is part of the main public relations office of the company its location is entirely separate. It is in one of the refinery offices in the same building with division and other sales offices. Here the personnel manager personally interviews more than 5000 men a year for station jobs, truck drivers and sales positions.

This company's methods would be neither possible nor desirable for the average marketer. But the guiding principles used certainly should be of help, whether the marketer's organization consists of 12 or 100 men.

The interviewer's office connects with a waiting room. This room has 45 comfortable, theater-style chairs. It has a bulletin board containing company advertising safety bulletins and the like. On a large table near the entrance is to be found current magazines to appeal to any type of reader. There is the Saturday Evening Post, Life, Readers Digest, Look and others. There is also a stack of the company's house organs.

THERE may, or may not be, any significance as to which type of magazine is selected by the applicant to look over while waiting.

On the table is a pad of sheets, each containing a number. A sign tells the applicant to "Take a number from the pad on table. Interviews given in numerical order unless you have an appointment."

At 11:30 A.M., this writer found 14 men waiting for interviews. Some of them were coatless. Some had their sleeves rolled up. One was asleep. Another was reading what appeared to be a prayer book. Some were flashily dressed. Ages ran from 17 to 55.

Before the interviews start at 9 o'clock, a short talk is given to the group by the personnel manager. They are told that, while there are no immediate openings, all will be given careful consideration when openings do occur.

When the writer arrived at the office, holder of No. 36 was leaving. It took No. 37 one minute and 20 seconds for the interview. He had returned to check his old application. No. 38 was interviewed for over 12 minutes.

There is no lost motion as the men go in for their interview. Those who are nervous are quickly placed at ease;

those who attempt high pressure methods are soon eased into their place. The manager does a minimum amount of talking. He encourages the applicant to talk; notes any contradictions in his statements. As the man talks, the manager makes a mental record of his qualifications. No notes are made in the presence of the applicant. But when the interview is over the trained mind of the interviewer has recorded at least 20 factors to use in deciding upon the applicant's qualifications. To do that is a matter of training, practice and experience. To explain how he does it, would be as hard as to tell how the tobacco auctioneer does his job.

However, here are the factors that are either observed or drawn out of the applicant by tactful questioning:

Appearance:

Flashy....Moderate....Slovenly....

PHYSICAL	INTELLIGENCE
Health	Alertness
Physique	Scholarship
Energy	Aptitude
Sight	Accuracy
Hearing	Common sense
LEADERSHIP	Reliability
Tact	Self confidence
Judgement	Enthusiasm
Co-operation	Usefulness
Initiative	Loyalty
Ability to direct	Endurance

If the applicant seems a likely candidate for a job a card is made, giving information as to address, telephone number and other information developed in the interview He is given the company's regular application form, social security blank, company retirement, insurance and other routine employment papers. He is also given a bond application. He is told to fill in the papers and bring them back. When they are returned, they are placed in an active file where they remain for 3 months unless the man is employed.

So far as selection of station personnel is concerned, many of those selected will work in leased stations. It is that company's policy to place men from company stations in leased stations when there are vacancies. There is always a list of many company station employes wanting to lease a station.

In the past, men selected for stations usually have been 21 or more. While that is not a mature age, the company has felt that by this time, particularly with boys who did not go to college, that they either did or didn't have an idea as to what they expected to do. They were also at a stage where generally they realized that it was time to get down to business if they expected to get anywhere.

While it has always been harder for a man past 40 to make the grade, there was no bar against men even up in the fifties. Retirement plans of the company have a great deal to do with the hiring of older men. At 55 under certain conditions they are eligible for retirement. Naturally a company is not going to employ a man for a couple of years and give him a pension the rest of his life. But regardless of age, if the applicant is considered a profitable investment to the company, he can get a job. War conditions will give men past the draft or army age a slight edge over younger men.

When there is a vacancy, the superintendent, supervisor or foreman calls on the personnel manager for the type of man he wants. From the file the man thought most likely to fill the job is selected. He is then brought in for an interview. Often the first applicant is not selected. The final selection is not up to the personnel manager; but it is his job to see that any of the men that might be selected meets the company's requirements.

Once a man is hired, he is on probation or trial basis until it is definitely determined that he is suitable for the work. But because of the great care used in original selection of men, there is a minimum of turnover once they are employed. Before a man goes to work, his superior knows his strong and weak points. An intensive training program at the beginning of employment, plus a never ending progress check, results in a better organization each year to meet constantly increasing competitive conditions.

The applicant's references are checked. But no great importance is attached to personal refernces. Former employers, and in some cases the applicant's school connections, are usually the references that count. All the men are bonded, and must pass a physical examination.

That, in general, is the routine of employment in a major company. But back of the mere interview, the filling in of a card, the making of an application and going to work, are many factors often not considered by the average marketer as important in the selection of representatives.

Treat All Applicants Courteously Is Procedure on Interviews

One of these is to establish the company's own good reputation. Regardless of the number of applications for jobs, every applicant is treated courteously. Even if they are not employed, they are given the feeling that "Here is a pretty good company, even if I didn't get a job." This is personnel management, plus good salesmanship.

If 4000 out of the 5000 applicants were treated in a hard-boiled manner, eventually they would discuss it with many people, perhaps 20 per man. That would be 80,000 or more people who would be given a bad impression of the company in 1 year alone. The fact that a man is broke and out of a job today is no reason or indication that he will always be that way. Tomorrow he may be wielding a mighty hand in public affairs.

The personnel manager of this company often knows of openings in other companies—not necessarily the oil business. Many times he is able to send applicants to these companies.

By reason of the company's perpetual training program and personnel follow up, men are seldom fired. When they start "slipping" they are often called in for a friendly talk with the personnel manager. Many times, the company knows the cause of the trouble where even the man himself doesn't. Often it is corrected.

Here is a typical talk given a station operator who was getting a little careless in the way he was talking to customers:

"——Alan, I want to tell you something you probably never thought about. You are really not working for the —Oil Co. They are not the ones that pay your light bills, buy baby's shoes, make the payments on your house and car. This company only acts as a collection agency for the people who really pay your salary. Should they decide they don't like you, they will tell us and we will have to stop your pay. Your boss is really Mr. and Mrs. Public who trade at your station. They are hard to please, exacting and easily offended. Sometimes they are even unreasonable—but they do pay your salary regularly as long as you treat them right."

Busy marketers can devote only a comparatively short time to the study of personnel management. To become expert in this art requires much study. There are many excellent books on the subject, well worth any executive's time to read and use as reference books. Among them are:

Walton—*The New Technique for Supervisors & Foremen*	$2.50
Heyel—*Human Relations Manual for Executives*	2.00
Rosenstein—*Psychology of Human Relations for Executives*	2.50
Tead & Metcalf—*Personnel Administration—Its Principles & Practice*	4.00
Gardner—*Better Foremanship*	2.50
Laird—*Psychology of Selecting Employes*	4.00

Any of these books may be obtained from NPN's Oil Marketer's Service Bureau, Room 529 Penton Building, Cleveland, Ohio.

Perhaps of interest to smaller mar-

keters is the way other successful marketers handle their personnel problems. Usually the hiring is done by the head of the company. Often the applicant must "sell himself" to 3 or 4, or perhaps more company executives.

As a general rule, where stations are in charge of a supervisor, the hiring of station men is up to him.

It is the practice of one large marketer in selecting service station operators, salary or lease, to have their complete application form filled out. Before anyone is employed 3 or 4 references are consulted.

But in this company's case, as with most other marketers, their experience has been that the best information comes from former employers.

And it has also been their experience, which is worth remembering by any employer, that the best way to get a frank statement of the applicant's qualifications is to call his former employer on the phone. Or even his former school connections. Often an employer hesitates, for obvious reasons, in putting himself on record where the man's record may not be so good.

That company's belief is that a man who has been trained by a good marketing organization in another company will make a good man for them. That is if his record has been good. With marketers, however, opinion is divided about 50-50 on this. Some prefer men with no previous oil company training. A surprising number of marketers prefer young men who have worked and been trained in chain grocery and drug stores.

These men are accustomed to long hours, hard work, discipline, merchandising and display. Usually the pay in service stations is better, and the chances of promotion greater, than is offered by chain stores.

Where a company uses an application for employment blank, it generally has a stock form to send to former employers to obtain certain information. A composite picture of all of these forms shows that the following personal information regarding an applicant is desired:

Qualifications	Poor	Below Avg.	Above Avg.	Outstanding
Quality of work	☐	☐	☐	☐
Co-operation with others	☐	☐	☐	☐
Personal habits	☐	☐	☐	☐
Dependability	☐	☐	☐	☐
Capacity for growth	☐	☐	☐	☐

Date of employment, date and cause for leaving last job and last salary is other information usually wanted. But this information is never as accurate and frank as the telephone method.

Under the Iowa plan of operation, it is not possible to have close contact or supervision over operators. But it is possible to use the same guide in selecting lessees as used in hiring employes. Furthermore, if the right selection is made to start, the operator

Order Now!

Extra Copies—WINTER CHANGE-OVER ISSUE

INDEPENDENT Oil Marketers are going after the BIGGEST winter conditioning market ever, this fall and winter.

They estimate larger INCREASES over Winter CHANGE-OVER sales and services of last year. They tell us that even greater increases in this business are possible, IF the campaigns are vigorously pushed by more marketing companies, and the public's consciousness awakened to the need for conditioning its cars for cold weather driving.

You will find in this November 6th issue articles, suggestions, methods on how to get the *Extra Profits* from Winter CHANGE-OVER sales and services that are yours right now—IF you'll go after them!

For 10c each, put a copy of this November 6th issue in the hands of every station attendant, salesman and division manager in your company.

You'll be surprised at the INCREASED business that will result from a study and application of the information in this issue to your WINTER CHANGE-OVER sales and conditioning market.

Send your order for extra copies of this November 6th issue AT ONCE, before our supply is exhausted. 10c per copy postpaid.

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will be the type to appreciate his company's interest in him and his employes. He will appreciate that his company's interest is not in having a "hold" on him, but to make a better man and merchant out of him. When this is done, operations are better and more business results.

There are still some marketers, as well as major companies, who lease their stations without the formality of any kind of application.

When these would-be operators apply they leave their name, address and telephone number. When there is an opening, they are called and if they look all right and have the money they are given the station. Of course, in the case of some smaller marketers, the applicant is already fairly well known to him, and merely some casual inquiry is made of a mutual friend regarding him.

But in studying the personnel question in marketing organizations with the smallest turnover—the ones doing the best job if you please—it was found that they really go into the selection of their personnel in a serious way.

NPN has sifted from the vast records of applied psychological research, experiments, failures and success in oil company personnel management, and prepared a check list of the essentials which may be used by any employer to gauge the efficiency of its prospective and present personnel. It is intended to assist all marketers in holding turnover to a minimum by scientific selection of men, scientific training of personnel and scientific follow up. The check list is shown on this and following pages.

Careful Selection Reduces Personnel Turnover

If proper care and skill is used in employing personnel, there is no reason for expensive turnover—PROVIDED the same care and skill is used in following the progress of men after they have been hired.

To help all marketers achieve a low rate of turnover, NPN has compiled this practical guide for executives, managers and foremen. It is not a psychological innovation but a sifted set of guide posts that could be used from the foreman through the chairman of the board.

Neither is it intended for use as an employment application blank. It is a guide to be used in the selection of men who have applied for work. It does not contain all of the usual information that an employer should have. It is simply an addition to that information. It catalogues applicants before employment and automatically indexes them afterward.

Larger marketers hold turnover to a minimum by scientific selection of men, training of personnel and follow up. Small marketers can do the same whether they have 12 or several hundred employes. Once men are properly selected, they don't go to pieces overnight because of a combination of little things. To fire them is simply to bet with yourself that you won't repeat the expensive hire-and-fire routine.

NPN's guide is divided into 2 parts. Part One is a tally to be used in assembling information regarding an applicant when deciding whether or not he should be hired. Part Two enables the employer to measure the applicant's progress. Used monthly or quarterly, it shows changes in personality—good or bad—and permits needed corrections where necessary.

Only absolute minimum essentials necessary for successful employment and follow up have been included. They include personnel classifications considered absolutely necessary by those larger companies and smaller marketers with the smallest percentage of turnover. There is nothing long, involved or complicated about keeping it.

An experienced traveler knows how many bags he should take on a trip. But he always checks them in advance and along the route, because often the most important piece is forgotten or lost.

That's the general idea of NPN's PERSONNEL GUIDE AND SERVICE RECORD.

Personnel Selection Guide to Aid Interviewer

Personnel Selection Guide (Part 1—Employment)

Guide No. 1 presents all essentials to an interviewer when considering an applicant for a job.

Use Part 1 in checking applicants; part 2 as a progress report and service record after employment. Part 2 used monthly or quarterly will act as a guide in correcting any particular faults that may have shown up originally, or developed during employment.

Use red pencil to check other than best ratings.
This form is not intended to replace regular application form. It is not an application blank but a supplement to that form.

Name ..... Date.....

Address ..... Phone.....

Position applying for .....

PHYSICAL

Appearance (dress)
Conservative..... Good..... Slovenly.....
Neat..... Shoes shined..... Clothes pressed.....

Appearance (physical)
Strong..... Vigorous..... Medium..... Weak.....
Shaved..... Smooth skin..... Skin trouble.....

Health (appearance)
Good..... Poor.....

Sight
Wears glasses..... Extra strong lenses.....
If no glasses worn, vision appear good..... poor.....
color blind.....

Hearing
Wear ear phones.....
Hear questions asked in an undertone. Yes.....No.....

Voice
Strong..... Weak..... Pleasing..... Stammer.....
Lisp..... Drawl..... Clear.....

Pronunciation (accent)
Pure..... Native..... Foreign.....

Fluency (ease of speech)
Good..... Average..... Poor.....

Other physical points noted:

INTELLIGENCE

(Note: Intelligence is distinct from knowledge. A man may not have a great amount of knowledge but be able to learn rapidly, think well, to profit by his experience and make a good man with training.)

Self-confident	Yes.....	No.....
Conceited	Yes.....	No.....
Timid	Yes.....	No.....
Serious minded	Yes.....	No.....
Happy	Yes.....	No.....
Worried	Yes.....	No.....
Earnest	Yes.....	No.....
Indifferent	Yes.....	No.....

Nervous or irritable..... Yes..... No.....
Fixed ideas ..... Yes..... No.....
Alert ..... Yes..... No.....
Open minded ..... Yes..... No.....
Strong prejudices
Politics..... Religion..... Other.....
Aggressive ..... Yes..... No.....
Capacity for learning (This can only be ascertained by questioning applicant)
Does he learn quickly.....
average..... slowly.....
Comprehension
Grasps questions quickly..... slowly.....
Enthusiasm
High..... Medium..... Low.....
Common sense
Fair..... Good..... Excellent.....
Other intelligence points noted:

PERSONAL QUALITIES

(Note: Many of the answers to these points may be found by skillful questioning of the applicant. A second check while he is on probation [see Part B] will show the truthfulness of the applicant's statement.)

Any eccentricities ..... Yes..... No.....
Any aims in life ..... Yes..... No.....
Enthusiastic ..... Yes..... No.....
Ambitious ..... Yes..... No.....
Read or study ..... Yes..... No.....
Self-pity ..... Yes..... No.....
His opinion of last employers.
(A)
Respectful..... Bitter.....
Always wrong..... Dumb.....
Tactful dismissal of subject.....
(B)
Was he
Fired..... Laid off.....
Did he
Resign..... Quit without notice.....
Is he
Still working..... If so does he want to change because he wants more money..... sees a better future..... no reason.....
Interest in
Drink..... Women..... Gambling.....
Religion..... Politics..... Social affairs.....
Does he have
Domestic trouble..... Debt worries.....
Does he
Save systematically..... Carry insurance.....

ESTIMATE OF APPLICANT'S PROBABLE SUCCESS:

Excellent..... Good..... Fair..... By_____
Excellent..... Good..... Fair..... By_____
Excellent..... Good..... Fair..... By_____

Follow-Up Report Checks on Employe's Progress

N.P.N. PERSONNEL SELECTION GUIDE (PART 2)

This guide is for the purpose of having a complete progress report on employes. It may be used monthly or quarterly as the employer sees fit. For new employes in particular, it should be used monthly.

This guide acts as a check on the employer's original interview and his personal opinion of the applicant. But mainly it is intended as a service record to catch, and correct in time, faults that an employe may be developing. It acts as a guide for promotion, and finally, if necessary, a means of giving other employers authentic information when the man becomes a "former-employe."

Use red pencil to check other than best ratings. Compare with original or last report.

Name ..... Date.....
Address..... Phone.....
Position..... Department or Foreman.....
Salary..... Check made by.....

PHYSICAL

Appearance (dress)
Conservative..... Good..... Slovenly.....
Neat..... Shoes shined..... Clothes pressed.....
Appearance (physical)
Strong..... Vigorous..... Medium..... Weak.....
Shaved..... Smooth skin..... Skin trouble.....
Health
Good..... Poor.....
If poor, the trouble.....
What doing to correct.....
Sight
Good..... Poor.....
If poor, do glasses fail to correct.....
Color blind..... near sighted..... far sighted.....
Is his work affected by eyesight.....
Hearing
Good..... Poor.....
Can it be corrected..... If poor, does it affect his job.....
Voice
Pleasing..... Lisp..... Drawl..... Clear.....
Improvement since last report..... Yes.....No.....
Pronunciation (accent)
Pure..... Native..... Foreign.....
Does his pronunciation affect his job..... Would it affect it on another job or location.....
Fluency (ease of speech)
Good..... Average..... Poor.....
Energy
Very energetic..... Fairly so..... Lazy.....
Cleanliness
Very good..... Fair..... Dirty.....
General attitude
Friendly..... Defensive..... Aggressive.....
Other physical traits noted since last report:

INTELLIGENCE

Aptitude
Good..... Average..... Poor.....
Strong prejudices
Politics..... Religion..... Other.....
Capable of learning
Does he learn quickly..... slowly.....
Accuracy
Keeping records: Good..... Fair..... Sloppy.....
Speech: Truthfully..... Exactly..... Careless with truth..... Lie.....
Self confident
Yes..... No.....
Memory
Good..... Bad.....
Originality
None..... Fair amount..... Highly developed.....
Loyal
Yes..... No.....
Gossip
Yes..... No.....
Timid
Extremely..... Moderately.....
Fighting spirit
Yes..... No.....

Enthusiastic
Yes..... No.....
Open-minded
Yes..... No.....

LEADERSHIP

Relations with associates
Good..... Poor.....
Co-operative
Yes..... No.....
Ability to direct
Without friction..... Limited..... Antagonizes.....
Organizing ability
Yes..... No.....
Is he
Patient..... A driver..... A persuader.....
Tact
Yes..... No.....
Judgment
Good..... Average..... Poor.....
Creative
Yes..... No.....
Aptitude for leadership
Yes..... No.....
Get along with superiors
Yes..... No.....
Other leadership qualities:

PERSONAL QUALITIES

Reliable
Yes..... No.....
Enthusiasm
High..... Low..... Medium.....
Domestic trouble
Yes..... No.....
In debt
Yes..... No.....
Any eccentricities
Yes..... No.....
What are they:
Interested in:
Drink..... Women..... Gambling.....
Religion..... Politics..... Social affairs.....
Is he
Saving systematically..... Carrying insurance.....

ESTIMATE OF APPLICANT'S PROGRESS SINCE LAST REPORT

SHOWS IMPROVEMENT..... ABOUT THE SAME.....

NOT AS GOOD.....
By..... By..... By.....
Date .....

Truck Carries Equipment to Test Meters at Terminals

Testing meters at Richfield Oil Corp.'s marine terminals in New York territory is a full-time job for one man, who makes the rounds in a unique truck specially designed for this purpose.

The truck resembles an ordinary tank truck, except for three projections from the top of the body, which look like stove pipes. Inside the truck's "skirts", however, the compartments are funnel-shaped, and empty into a common manifold. They are fitted with plug valves. Capacity of each of the 3 compartments is 249 gals.

Extending from the top of each of the funnel-shaped compartments is a dome, 6 in. in diameter and about 2 ft. high. Each dome holds 2 gals., and each is fitted with a door that opens to reveal a glass window. The windows are calibrated in cubic inches, the bottom reading starting at 249 gals. and extending up to 251 gals.

In making a test, 250 gals. of liquid —according to the meter—is run into one of the truck's compartments through a tight-connection, under-surface loader, which reaches to within 8 ins. of the bottom of the compartment. The window on the calibrated dome is then opened and the level of the liquid is read. If the meter is correct it will read exactly 250 gals. If the meter shows need of correction, the adjustment is made and another 250 gals. is metered into the next compartment on the truck for the second test. Three tests are made on each meter.

After the test is completed, the plug valves on the compartments are opened and the liquid is drained into the common manifold. From here, a pump on the truck moves it back into the storage tank.

Meters at the company's marine terminals are all 3-inch and each is tested once a month. Metering the liquid into the measuring compartments on the truck takes about 10 minutes, and pumping it back into the storage tank about 20 minutes. Length of time spent on adjusting meters depends on the nature of adjustments necessary.

Immediately after storage tanks have been cleaned, meters are apt to need slight adjustment, the company has found. In extreme weather conditions the meters are also watched more closely for accuracy.

A test of less than 250 gals. is not a fair test of a meter, Richfield believes, and in this regard bends itself backward, running a total of 750 gals. through each meter in making a test.

Much care is taken to see that meters are accurate, since all of the company's billing is computed from meter figures. In this way, customers are assured full measure and complaints of short measure are eliminated.

The Richfield meter test truck operates out of the company's Bayonne, N. J., terminal and has been "sealed" by every state in which the company operates.

Equipment mounted on this truck for testing meters at marine terminals provides for three test runs of 250 gals. each. The extended domes on top give minute readings on the last several gallons run into the calibrating tanks; fractional readings are shown from 249 gals. to 251 gals. Manifold and pump returns the product to storage tanks when the test had been completed

Motorists Demand Fast Service At New Parkway Stations

ONLY needs necessary to the immediate safe operation of cars, are supplied at oil company stations on two new highways for fast moving traffic, in New York City and vicinity. Attendants are trained to give speedy service, to speed up traffic on these highways.

Public authorities, which control the road side and paved surfaces on the 2 highways, designed and built the stations to conform with surroundings and prescribed conditions under which they were to be operated. In each case, they were leased to the Tide Water Associated Oil Co.

One of the stations is at E. 172nd St., in New York, on a 10-mile stretch of the Henry Hudson Parkway paralleling the Hudson river. This highway is operated by the New York Dept. of Parks. The other station is at New Canaan, Conn., on the 37-mile Merritt Parkway, which starts at Greenwich, on the New York-Connecticut line and continues to a point northeast of Bridgeport on the Housatonic River. This highway and the adjoining roadside are controlled by the Connecticut authorities.

During the first 6 months of 1940, a daily average of 31,955 vehicles used the Henry Hudson Parkway. Daily average number of vehicles using the Merritt Parkway during the year ending June 21, 1940, was 13,404.

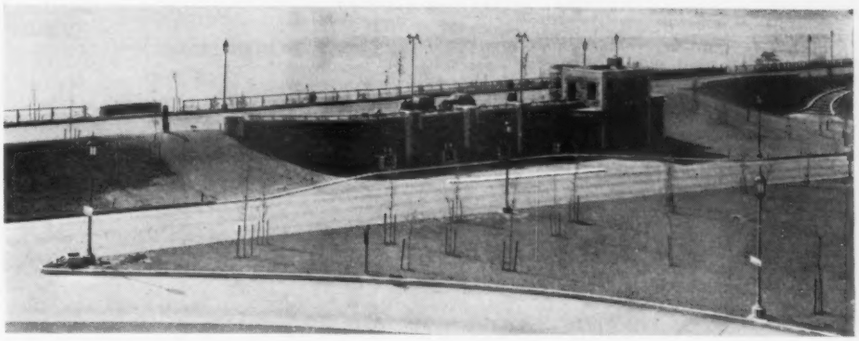
Commercial vehicles are prohibited from using both highways. Maximum official speed limit on the Merritt Parkway is 50 miles an hour and on the Henry Hudson Parkway, 35 miles. Both highways are divided to separate traffic moving in opposite directions. The Henry Hudson station is built between the 2 lanes of traffic and serves cars moving either way.

No roadside billboards or large advertising signs are permitted on either of these highways, with the result that Tide Water cannot advertise its station facilities, as oil companies do on most rural highways.

The Henry Hudson station is the only one on this 10-mile stretch.

To date, the New Canaan station is the only one on the 37-mile Merritt Parkway, although state authorities have announced that 2 more might be built. But no appropriations for additional stations have yet been proposed.

Contracts between the oil company



This view of the Henry Hudson Parkway station, shows both levels of traffic

Taken from the air on a typical Sunday afternoon. Small circle shows location of the single station on this route. Body of water is Hudson river. Photo courtesy of New York Daily News

and the public authorities, under which both parkway stations are operated, provide that gasoline must be sold at prevailing prices posted by other stations in the vicinity.

Out of its experience so far in operating these stations—under conditions which would be met only on highways where authorities controlled the road side as well as the highway—Tide Water follows this operating procedure at both stations:

They are open 24 hours a day, the crews operating on three 8-hour shifts, with enough men on hand so immediate service can be given.

Attendants were selected partly for sales ability and partly for appearance and ability to give thorough but fast service. White uniforms are worn in the summer, changed daily, and the company's regular oxford gray the rest of the year.

Service routine includes checking gasoline, water, oil, tires and battery, and wiping windshields and windows.

Radiator flushing has been found necessary as an emergency service, principally at the Merritt Parkway station, because sustained, high-speed driving on this thoroughfare causes engine heating among older model cars, which in turn clogs poorly circulating cooling systems.

In spite of the fact the Merritt Parkway station is prohibited from changing oil, or performing lubrication work, the oil company says that checking oil consistently as part of service routine has established a high ratio of oil to gasoline sales, through sales of make-up oil.

From the construction of this Merritt Parkway station, it is evident that the building conforms with surrounding countryside

A large quantity of tires and tubes are also sold, the company reports. Accessories selling in the largest volume aside from tires and tubes, are batteries, fan belts, light bulbs, battery cables, hoses, and windshield wipers.

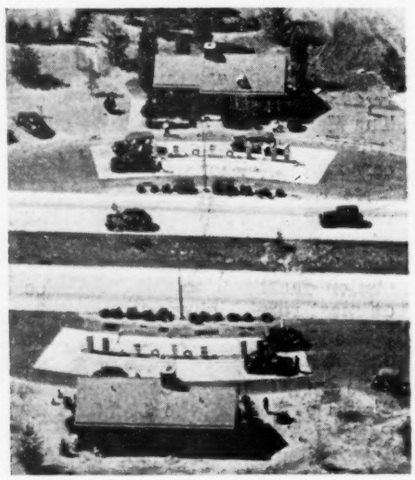
Keeping attendants posted with accurate information on roads, parks and general points of interest in this New York vicinity is an indispensable service, the company said.

At each station a completely equipped road service truck is available 24 hours a day. This car handles minor repairs, tire repairs and serves stranded motorists with gasoline. Flat rate charges are made for all services by the car and all products sold on the road are at regular posted prices. A service charge of 50c is made where the road call is to supply gasoline.

Motorists whose cars break down on Merritt Parkway hail a passing police car—of which there are many—and the police call the station from one of several roadway telephones for a tow truck owned by Tide Water.

Restrooms at both stations are complete with modern conveniences. The oil company also furnishes services of a matron on Saturdays, Sundays and holidays. The matron gives assistance wherever possible, particularly to women with babies or small children. Electric bottle warmers are available, also baby toilet seats. Tide Water makes the following comment on its experience at the two stations.

"Both these Parkway stations rep-



An air view of the Merritt Parkway shows both station units, pump islands and driveway layouts

ARMY TWILL by REEVES
REG. U.S. PAT. OFF. SANFORIZED*
MADE TO GOVERNMENT SPECIFICATIONS
REEVES Glengarrie POPLIN
Here's how these labels help build
GOOD WILL and GREATER PROFITS
Appearances count first! Uniforms whose quality implies efficient service help win greater unit sales, repeat business, confidence.
REEVES ARMY TWILL
meets U. S. ARMY requirements
Specify uniforms of Reeves Army Twill. They will meet exacting tests for long wearing quality, enduring washability, fabric vitality that holds tailoring.
GLENGARRIE POPLIN
for matching shirts
Here is a durable, high-style fabric in a wide range of colors woven and finished by Reeves. At the top in quality but not in price.
Both Fabrics SANFORIZED*
* Fabric shrinkage not more than 1% (U. S. Government test CCC-T-191-a)
"From Cotton to Cutter"
OVER 17,000,000 yards of Reeves Army Twill sold to the U. S. ARMY
REEVES BROTHERS, INC.
54 WORTH STREET
NEW YORK CITY
34-194A

resent what might be called the 'service stations of the future', in that they are located on high-speed routes catering to motorists who, if not actually in a hurry, are anxious to be on their way and therefore demand immediate attention and efficient service. It has been demonstrated that this type of motorists looks for and appreciates complete, courteous and friendly service and, above all, clean and modernly equipped restrooms. This type of service is appreciated to the extent that motorists often return to these stations at inconvenience to themselves."

The Merritt Parkway station was opened in May. Early in April the Merritt Parkway Commission called on oil companies for bids to operate the station and submitted the requirements to be met. Specifications were given for 2 grades of gasoline, "A" and "B", the former to have a minimum 78 octane number, by ASTM method, the latter 70 minimum octane. Other specifications, the same for both grades, were maximum sulfur, 0.1%; "corrosion o.k.", and gum content 7 mgs. maximum. Lubricating oil specifications called for 2 grades, to be sold in 1-qt., refinery-sealed cans only, bearing vendor's label and brand name. SAE viscosity numbers from 10 to 40, in each grade, were specified. Pour point of the "regular" grade of oil must range from zero to 30 and for the "premium" grade from 10 below zero to 25. It was provided that no lubrication work, not even crankcase service was to be given and that only "necessary" accessories should be sold, without written consent of the Merritt Parkway Commission.

It was further provided that the successful bidder must have a bulk plant in Fairfield county, Conn., and that the Commission have access to the station for inspection at all times. The state asked bids on a per gallon rental fee, in addition to a monthly rental of $250. Tide Water Associated Oil Co. was awarded the contract to operate the station, with a bid of 3.39c per gal. commission on all gasoline sales. Nearest per-gallon bids were 3.26c and 3.17c.

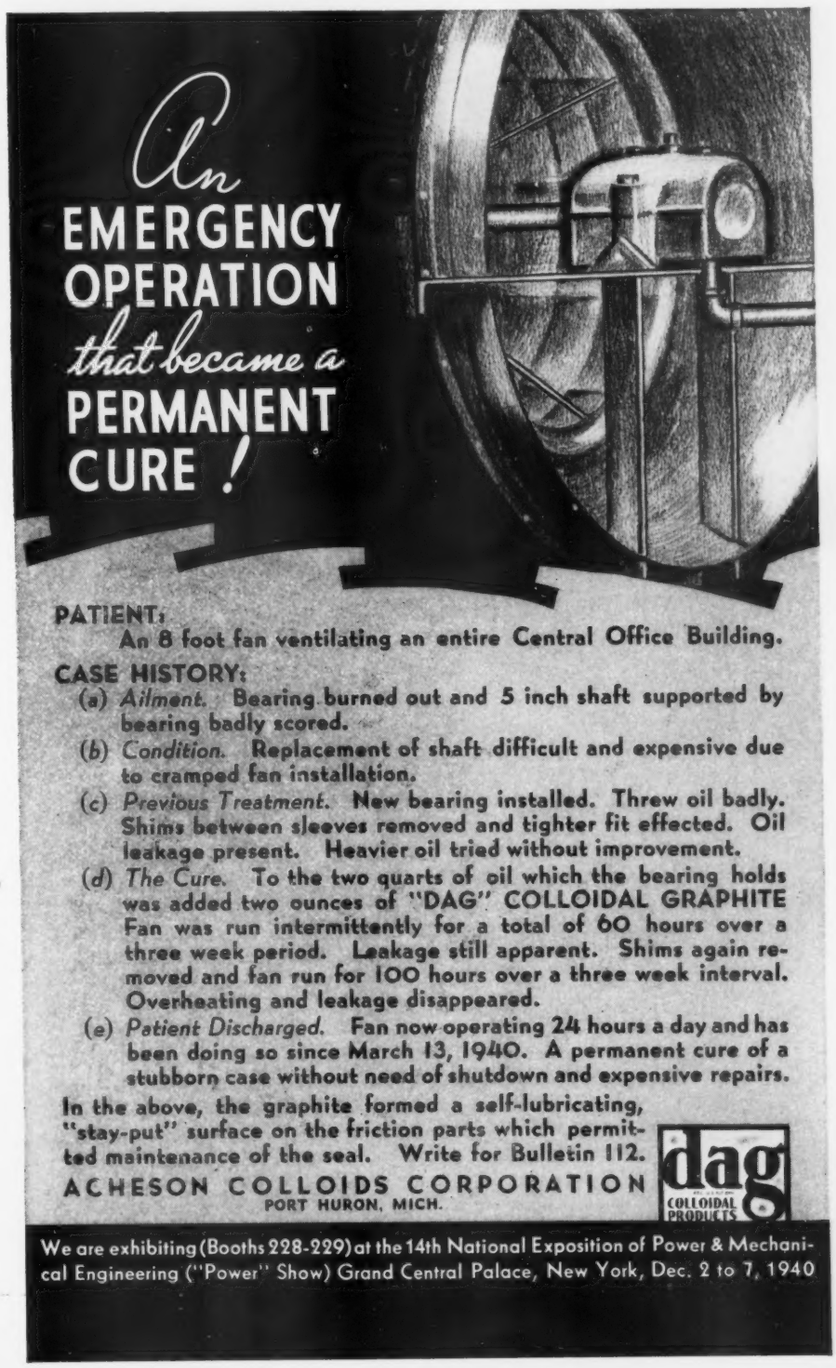
Merritt Parkway is a dual lane highway, with opposing streams of traffic separated by a wide, landscaped park strip. Being at the gateway to New England and close to New York, intensity of traffic flow towards New York is great at certain hours and in the opposite direction at others. Traffic flow is steady throughout the daylight and early evening hours, and only diminishes in volume at late night and early morning hours. A typical week's traffic check, early in the summer, showed 61,622 cars used the eastbound lane, 58,526 the westbound lane.

Because of the anticipated fluctuation in the traffic directional volume, it was decided by the state authorities to locate identical station buildings, pumps and tanks, on each side of the parkway and directly opposite each other. Thus a constant personnel might be assigned to the unit as a whole, men being shifted back and forth across the highway as the fluctuation of traffic required.

Each building contains a service room for storing oil, accessories and supplies and provides space for tire repair work and other servicing. Also each has a lounge room, fitted with modernistic furniture, and complete ladies and mens restrooms. Each unit has wide approach driveways, level with the Parkways, allowing motorists to drive in without greatly diminishing their speed, and a pump island with 2 pumps at each end. Beyond the island and set back from the station driveway is a parking area. Air towers are located at each end of the station driveway.

Since the Merritt Parkway station was opened, the company says that its business has increased so that it has had to add 5 additional men to the number originally selected to operate the station.

In April, 1939, Tide Water Associated entered into an agreement with the New York Dept. of Parks to operate the station on the Henry Hudson Parkway. The stone building, designed and built by the park department, in keeping with the general architecture of the parkway bridges and underpasses, is located on an island between the northbound and southbound lanes and serves traffic on 2 different levels. The upper level, used by motorists traveling south, is approximately 20 ft. higher than the lower level. The office on the upper level has a circular glass rotunda which gives a view of the Hudson river for many miles in each direction.


An
EMERGENCY
OPERATION
that became a
PERMANENT
CURE!
PATIENT:
An 8 foot fan ventilating an entire Central Office Building.
CASE HISTORY:
(a) Ailment. Bearing burned out and 5 inch shaft supported by bearing badly scored.
(b) Condition. Replacement of shaft difficult and expensive due to cramped fan installation.
(c) Previous Treatment. New bearing installed. Threw oil badly. Shims between sleeves removed and tighter fit effected. Oil leakage present. Heavier oil tried without improvement.
(d) The Cure. To the two quarts of oil which the bearing holds was added two ounces of "DAG" COLLOIDAL GRAPHITE Fan was run intermittently for a total of 60 hours over a three week period. Leakage still apparent. Shims again removed and fan run for 100 hours over a three week interval. Overheating and leakage disappeared.
(e) Patient Discharged. Fan now operating 24 hours a day and has been doing so since March 13, 1940. A permanent cure of a stubborn case without need of shutdown and expensive repairs.
In the above, the graphite formed a self-lubricating, "stay-put" surface on the friction parts which permitted maintenance of the seal. Write for Bulletin 112.
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COLLOIDAL PRODUCTS
We are exhibiting (Booths 228-229) at the 14th National Exposition of Power & Mechanical Engineering ("Power" Show) Grand Central Palace, New York, Dec. 2 to 7, 1940

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Rich, free flowing, high in pumpability even in sub-Zero weather, Champlin Zero-pour test Motor Oils are getting the job done for Independent Jobbers.

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MARKETS

Pennsylvania

CLEVELAND, Oct. 26.—Wax continued its recent upward trend but aside from this, refined products prices were reported unchanged by western Pennsylvania refiners the past week. Fair to good movement of lubes against domestic contracts was indicated by most refiners and all light products were in good shape, it was said.

Several refiners reported being sold up on wax until the end of November and only small lots were said to be available for reasonably prompt shipment. Quotations reported for white crude scale ranged from 2.85 to 3c per lb., New York, up 0.1c on the low.

Inquiries for large quantities of bright stock for shipment to the Far East were in the market, according to reports, but apparently orders were being held up due to inability to obtain export permits. "I have one order for 10,000 bbls. pending," one refiner said. "Price I quoted is satisfactory to the buyer, but we haven't yet been able to get a permit to ship," he added. Another refiner, who said he was committed on bright stock through November, said he had turned down an order for 5000 bbls.

California

LOS ANGELES, Oct. 26.—Grade C bunker fuel oil, Pacific specification 400, was offered 15c lower by some independent refiners in the Los Angeles Basin at $0.65 per bbl., according to reports here the past week. No other changes were reported in quotations on Pacific Coast export markets.

In the domestic market, natural gasoline was said to be firm at 4.75 to 5c per gal. at absorption plants in the Basin area.

All grades of gasoline were moving within a narrower price range at the independent plants in the Los Angeles district, reports indicated. For a third-grade product, 375-400 e.p., the range was said to be 4.5 to 5.5c per gal. for intrastate shipments, and 4.5 to 6c for out-of-state shipments. For leaded gasoline, the range was 5.5 to 6.25c, and for Ethyl, 7.5 to 8.5c, according to reports.

Atlantic Coast

NEW YORK, Oct. 26.—Quotations reported for kerosine and light fuels were up 0.3c and 0.2c, respectively, at New York and several other points along the North Atlantic seaboard the past week. Gasoline was in good demand due to mild weather with quotations for all grades unchanged, according to reports.

Kerosine was quoted 0.3c higher at 5.1c in tank cars, 5c in barges at New York, 5.3c at Portland, and 5.2c at Albany, Boston, and Providence when several suppliers reported advances in their prices at these points. Quotations reported by other New York suppliers for kerosine ranged upward from 4.8c in tank cars and 4.7c in barges. Nos. 2 and 3 fuels were quoted 0.2c higher at 4.5c at Portland, 4.4c at Albany, Boston and Providence.

Gulf

NEW YORK, Oct. 26.—Higher coastwise tanker rates have had the effect of slowing cargo trading at the Gulf, according to reports of some refiners the past week.

Unconfirmed reports of two open spot sales, one a cargo of minimum 80 oct. ('39 Research) gasoline at 4c, and the other, a cargo of Bunker "C" fuel at $0.80 per bbl., were heard. Other than this, no sales were reported, and, as far as could be learned, no new inquiries of sizable quantity were in the market. One refiner said he had made "several sales, some of them spot, contingent on (buyers) getting ships."

Refiners' asking prices were unchanged, according to reports here and from the Southwest. Kerosine was still being offered at 3.875c for immediate lifting, but refiners were unwilling to accept less than 4c for November lifting, it was said. At least 4 refiners were said to be offering No. 2 fuel at 3.25c. Prices reported by other refiners ranged up to 3.75c.

Mid-Continent

TULSA, Oct. 26.—Light fuel oils continued in good demand in the Mid-Continent the past week, according to most suppliers, despite mild weather that prevailed in much of the consuming territory. Refiners said stocks were "low" and in one case a Kansas refiner reported "prorating one car of No. 1 p.w. fuel to two cars of gasoline." Several suppliers described demand as "too active for us to accumulate much, if any, stocks." No changes in quotations were reported. Heavy fuels were moving out well to railroads, it was said, and some industrial inquiries were reported.

Good demand for gasoline continued, most refiners said, but "stiff competition" was encountered in some areas, it was said. One Oklahoma refiner said he was still quoting "4 to 4.50c" for 72-74 octane, 4c price for shipment to restricted areas to meet this competition. He reported restricted sales at the 4c price. Quotations for unrestricted shipment reported by other Oklahoma refiners for 72-74 ranged from 4.50 to 5c.

Sales of Grade 26-70 natural gasoline were reported at 2.75c FOB Group 3; one manufacturer said he was quoting 3c. Quotations and sales reported FOB Breckenridge were at 2.50c.

Mid-Western

CHICAGO, Oct. 26.—Gasoline movement was described as "normal for this time of year" by refiners here the past week, with demand for kerosine picking up and movement of range oil and light fuels in good volume. Sales of 72-74 oct. gasoline were reported 0.125c lower at 3.75c, Group 3, by a tank car marketer, and quotations reported by refiners for range oil were from 3.625 to 3.875c, up 0.125c on the low. Quotations for other products for the most part were reported unchanged.

Open spot sales reported during the week by 4 tank car marketers were: 26 cars of 72-74 oct. gasoline, 6 cars at 3.75c and 20 cars at 3.875c; 3 cars of 63-66 oct. at 3.50c; 1 car of 60 oct. & below at 3.25c; 3 cars of Ethyl at 4.50c; 1 car of 41-43 w.w. kerosine at 3.625c; 1 car of range oil at 3.50c; and 2 cars of No. 3 fuel at 3.125c, all F.O.B. Group 3. No open spot sales were reported by refiners.

Quotations reported by marketers ranged from 3.75 to 3.875c for 72-74 oct., 3.375 to 3.75c for 63-66 oct., 3 to 3.50c for 60 & below, 3.50 to 3.75c for 41-43 kerosine, 3.375 to 3.625c for range oil, and 3 to 3.25c for No. 3 fuel. Group 3 quotations reported by refiners ranged from 4.50 to 5c, 4.125 to 4.50c, 3.75 to 4.25c, 3.875 to 4.25c, 3.625 to 3.875c, and 3.125 to 3.375c, for the same products, respectively.

A.S.T.M. Standards Published

CLEVELAND, Oct. 28.—The 1940-1941 compilation of A.S.T.M. Standards on Petroleum Products and Lubricants has just been issued by the American Society for Testing Materials under sponsorship of Committee D-2. The latest committee report is included thus providing detailed changes on some 18 standards and giving details of three proposed new methods covering tests for neutralization number, aniline point, and for ignition quality of diesel fuel.

New standards included for the first time provide tests for carbonizable substances in white mineral oil (liquid petrolatum), dropping point of lubricating grease, and the method of calculating viscosity index.

Copies of this 350-page book are available from A.S.T.M. headquarters, 260 S. Broad St., Philadelphia, at $2.

REFINERY and SEABOARD PRICES

In bulk lots by Motor Transport, Tank Car, Barge or Tanker as shown

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

HOW PRICES ARE REPORTED—

Refinery and Seaboard prices in National Petroleum News are gathered by PLATT'S OILGRAM and are as published in the Monday issue of the OILGRAM.

PLATT'S OILGRAM is a reporting service issued in three identical editions daily from News Bureaus at New York, Cleveland, and Tulsa, Okla. PLATT'S OILGRAM gathers and publishes what its publisher and representatives believe to be accurate news of sales, prices and current happenings affecting the oil industry and that will be of interest to its subscribers. As this information is usually private, OILGRAM reports it according to what it is able to obtain from sources deemed reliable.

All information is supplied without guarantee as to its completeness, accuracy time of transmission or promptness of delivery.

The subscriber receives this information for his private use and not for resale or further distribution.

Publisher reserves the right to change the extent, nature and form of showing this information at any time.

Prices shown in the tables are quotations (meaning sellers' general offers or posted prices), or actual sales prices, reported to OILGRAM by refiners for "open spot" transactions, except as otherwise specified.

Prices arrived at by discounts off a specified price or "market date of shipment," prices named in contracts or prices arrived at in accordance with any arrangement made prior to date of sale, are not for "open spot" transactions and therefore are not considered in making the price tables. Prices made to brokers and prices in "inter-refinery" transactions are also not considered except as may be noted.

All prices are for "immediate" shipment except in Gulf Coast bulk transactions where shipment is generally to be made in ninety days. Prices are FOB refineries, pipelines, or tanker terminals in districts designated.

Prices shown are for quantities in bulk such as tank car lots, motor transport lots or barge lots; and in cents per gallon; heavy fuel oils are in dollars per barrel of 42 U.S. gallons; wax and petrolatums are in cents per pound. Prices applying to barges or cargoes only are so designated.

Prices do not include taxes or inspection fees. Prices are published at the close of the business day.

Mid-Western prices in the tables were gathered from refiners with offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma) freight basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. Other refinery prices are given by and for the particular refining district where the material is made and from which it is shipped.

When prices obtained by OILGRAM do not conform to these conditions the exception and the new conditions are noted in the news lead or in conjunction with the price table by footnote or otherwise, for the particular refinery or sales district involved.

Crude oil and products covered by OILGRAM'S news and price service, except where noted, have been represented to the publisher as fully up to the customary trade specifications indicated and according to the generally accepted methods of test; and all crude oil and all products thereof as having been lawfully produced and transported.

Any apparent error should be reported to the nearest OILGRAM or National Petroleum News office at once as no correction will be made after the second issue of the OILGRAM or National Petroleum News following its publication.

Summary of Daily Gasoline Prices (Oct. 22 to Oct. 28)

U. S. Motor, (ASTM octane)	Latest Prices Mon. Oct. 28	Oct. 25	Oct. 24	Oct. 23	Oct. 22
72-74 octane:					
Oklahoma	(u) 4.50 –5.00	(u) 4.50 –5.00	(u) 4.50 –5.00	(u) 4.50 –5.00	(u) 4.50 –5.00
Mid-Western (Group 3 basis)	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.50 – 5.25	4.50 – 5.25	4.50 – 5.25	4.50 – 5.25	4.50 – 5.25
W. Tex. (For shpt. to Tex. & N.M. dest'ns.)	5.00 (2)	5.00 (2)	5.00 (2)	5.00(2)	5.00(2)
63-66 octane:					
Oklahoma	4.125– 4.50	4.125– 4.50	4.125– 4.50	4.125– 4.50	4.125– 4.50
Mid-Western (Group 3 basis)	4.125– 4.50	4.125– 4.50	4.125– 4.50	4.125– 4.50	4.125– 4.50
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.125– 5.00	4.125– 5.00	4.125– 5.00	4.125– 5.00	4.125– 5.00
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.50 (2)	4.50 (2)	4.50 (2)	4.50 (2)	4.50 (2)
60 octane & below:					
Oklahoma	3.75 – 4.25	3.75 – 4.25	3.75 – 4.25	3.75 – 4.25	3.75 – 4.25
Mid-Western (Group 3 basis)	3.75 – 4.25	3.75 – 4.25	3.75 – 4.25	3.75 – 4.25	3.75 – 4.25
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	3.75 – 4.50	3.75 – 4.50	3.75 – 4.50	3.75 – 4.50	3.75 – 4.50
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.00 (2)	4.00 (2)	4.00 (2)	4.00 (2)	4.00 (2)
Motor Gasoline, 72-74 octane (ASTM):					
New York harbor	5.00 – 6.50	5.00 – 6.50	5.00 – 6.50	5.00 – 6.50	5.00 – 6.50
Philadelphia district	5.25 – 7.00	5.25 – 7.00	5.25 – 7.00	5.25 – 7.00	5.25 – 7.00
Baltimore district	5.50 – 7.25	5.50 – 7.25	5.50 – 7.25	5.50 – 7.25	5.50 – 7.25
Motor Gasoline:					
74-76 Octane: (L-3)					
Bradford-Warren (Western Penna.)	6.00	6.00	6.00	6.00	6.00
Other Districts (Western Penna.)	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
72-73 Octane: (L-3)					
Bradford-Warren (Western Penna.)	5.75 (2)	5.75 (2)	5.75 (2)	5.75 (2)	5.75 (2)
Other Districts (Western Penna.)	.....	.....	.....	.....	5.75 (1)

REFINERY PRICES

Gasoline U. S. Motor (ASTM Octane) except where otherwise specified

Prices Effective	Oct. 28	Oct. 21
OKLAHOMA		
72-74 oct.	(u) 4.50 –5.00	(u) 4.50 –5.00
63-66 oct.	4.125– 4.50	4.125– 4.50
60 oct. & below	3.75 – 4.25	3.75 – 4.25
60-62 400 e.p.	4.00 (2)	4.00 (2)
MID-WESTERN		
72-74 oct.	4.50 – 5.00	4.50 – 5.00
63-66 oct.	4.125– 4.50	4.125– 4.50
60 oct. & below	3.75 – 4.25	3.75 – 4.25
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
72-74 oct.	4.50 – 5.25	4.50 – 5.25
63-66 oct.	4.125– 5.00	4.125– 5.00
60 oct. & below	3.75 – 4.50	3.75 – 4.50
60-62, 400 e.p.	4.25 –4.75 (2)	4.25 –4.75 (2)
W. TEX. (For shpt. to Tex. & N. M. dest'ns.		
72-74 oct.	5.00 (2)	5.00 (2)
63-66 oct.	4.50 (2)	4.50 (2)
60 oct. & below	4.00 (2)	4.00 (2)
CENT. W. TEX. (Prices to truck transports)		
72-74 oct. (L-3)	4.625 (1)	4.625 (1)
67-69 oct. (L-3)	3.875 (1)	3.875 (1)
62 oct. & below (L-3)	3.50 (1)	3.50 (1)
KANSAS (For Kansas destinations only)		
72-74 oct.	4.875– 5.125	4.875– 5.125
63-66 oct.	4.50 – 4.75	4.50 – 4.75
60 oct. & below	4.125– 4.375	4.125– 4.375

Prices Effective	Oct. 28	Oct. 21
ARK. (FOB Ark. plant of one refiner, for shipment to Ark. & La.)		
72-74 oct.	4.625	4.625
70-72 oct.	4.50	4.50
60 oct. & below	4.125	4.125
WESTERN PENNA. (Motor gasoline.		
Bradford-Warren:		
74-76 oct. (L-3)	6.00	6.00
72-73 oct. (L-3)	5.75 (2)	5.75 (2)
Naphtha		
Untreated naphtha.	.....	.....
Stoddard Solvent	.....	.....
Other districts:		
74-76 oct. (L-3)	5.75 – 6.00	5.75 – 6.00
72-73 oct. (L-3)	.....	5.75 (1)
Naphtha		
Untreated naphtha.	5.50 – 5.75	5.50 – 5.75
Stoddard Solvent	6.00 – 6.25	6.00 – 6.25
CENTRAL MICHIGAN (f)		
U.S. Motor: (Oct. L-3)		
72-74 oct.	6.25 – 7.00	6.25 – 7.00
67-69 oct.	5.50 – 6.25	5.50 – 6.25
Str.-Run Gasoline	(g) 4.25–5.00	(g)4.25–5.00
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances)		
72-74 oct.	7.125	7.125
CALIFORNIA U.S. Motor:		
58-61 grav., 375-400 e.p., 65 oct. & above	5.50 – 7.50	5.50 – 8.00
54-58 grav., for outside state shipment	5.00 – 6.25	5.00 – 6.50
54-58 grav., for instate shipment	4.50 – 6.00	4.50 – 6.25

Kerosine, Gas & Fuel Oils

Prices Effective	Oct. 28	Oct. 21
OKLAHOMA		
41-43 grav. w.w.	3.875– 4.25	3.875– 4.25
42-44 grav., w.w.	4.00 – 4.625	4.00 – 4.625
Range Oil	3.50 – 3.875	3.50 – 3.875
No. 1 P.W.	3.50 – 3.75	3.50 – 3.75
No. 1 straw	3.375– 3.50	3.375– 3.50
No. 2 straw	3.375– 3.625	3.375– 3.625
No. 2 dark	3.375 (1)	3.375 (1)
U.G.I. gas oil	3.25 (2)	3.25 (2)
No. 3 fuel	3.25–3.375 (2)	3.25–3.375 (2)
No. 6 fuel	$0.55 (1)	$0.55 (1)
14-16 fuel	$0.85 (1)	$0.85 (1)
MID-WESTERN		
41-43 grav. w.w.	3.875– 4.25	3.875– 4.25
42-44 grav. w.w.	4.00 – 4.625	4.00 – 4.625
Range Oil	3.625 (2)	3.625– 3.875
No. 1 p.w.	3.375– 3.75	3.375– 3.75
No. 1 straw	.....	.....
No. 2 straw	3.375– 3.50	3.375– 3.50
No. 3	3.125– 3.375	3.125– 3.375
No. 5	$0.75 (1)	$0.75 (1)
No. 6	$0.50–$0.55 (2)	$0.50–$0.55(2)
N. TEX. (For shpt. to Tex. & N. M dest'ns.		
41-43 grav. w.w.	3.50 – 4.75	3.50 – 4.75
No. 1 P.W.	3.50–3.75 (2)	3.50 –3.75 (2)
KANSAS (For Kansas destinations only)		
41-43 grav. w.w.	4.25(1)	4.25 (1)
42-44 gravity w.w.	4.125– 4.375	4.125– 4.375
No. 1 p.w.	3.625– 3.875	3.625– 3.875
No. 6 fuel	$0.60–$0.625 (2)	$0.60–$0.625 (2)

(f) Prices FOB Central Michigan refinery group basis for shipment within Michigan; shipments may originate at plants outside Central group. (g) Excluding Detroit shipment. (h) For shipment to Ark. points only. (u) One refiner reports quoting "4 to 4.50c" for 72-74 oct., the lower price applying only to shipment into restricted competitive areas.

REFINERY PRICES (Continued)

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

Kerosine, Gas & Fuel Oil

(Continued)

Prices Effective	Oct. 28	Oct. 21
ARK. (F.o.b. Ark. plant of one refiner for shipment to Ark. and La.)		
41-43 grav. w.w.	4.25	4.25
No. 1	3.625	3.625
No. 2	3.375	3.375
28-32 zero fuel	3.25	3.25
Tractor Fuel	(h)4.25	(h)4.25
WESTERN PENNA.		
Bradford-Warren:		
45 grav. w.w.	5.00 – 5.375	5.00 – 5.375
46 grav. w.w.	5.25 (1)	5.25 (1)
36-40 gravity	5.00 – 5.25	5.00 – 5.125
Other districts:		
45 grav. w.w.	4.75 – 5.00	4.75 – 5.00
46 grav. w.w.	4.875– 5.125	4.875– 5.125
47 grav. w.w.	4.875– 5.25	4.875– 5.25
36-40 gravity	(l) 4.00 –4.25	(l) 4.00 –4.25
CENTRAL MICHIGAN (f)		
47-49 gravity w.w.	4.75 – 5.05	4.75 – 5.05
P.W. Distillate	4.75 – 4.875	4.75 – 4.875
No. 3 gas oil, Str.	4.25 – 4.50	4.25 – 4.50
U.G.I gas oil	3.50 – 4.00	3.50 – 4.00
Fuel Oils (Vis. at 100):		
500-700 Vis.	2.75–3.00 (2)	2.75–3.00 (2)
300-500 Vis.	2.75–3.25 (2)	2.75–3.25 (2)
100-300 Vis.	3.25–3.50 (1)	3.25–3.50 (1)
CALIFORNIA		
40-43 grav. w.w.	4.50 – 6.00	4.50 – 6.00
San Joaquin Valley:		
Heavy fuel	$0.50 –$0.75	$0.50 –$0.75
Light fuel	$0.55 –$0.85	$0.55 –$0.85
Diesel fuel	2.75 – 4.00	2.75 – 4.00
Stove dist.	2.75 – 5.00	2.75 – 5.00
Los Angeles:		
Heavy fuel	$0.50 –$0.70	$0.50 –$0.70
Light fuel	$0.55 –$0.75	$0.55 –$0.75
Diesel fuel	2.75 – 4.00	2.75 – 4.00
Stove dist.	2.75 – 4.00	2.75 – 4.00
San Francisco:		
Heavy fuel	$0.80	$0.80
Light fuel	$0.90	$0.90
Diesel fuel	4.50	4.50
Stove dist.	4.50	5.50

Note: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100.

Lubricating Oils

WESTERN PENNA.

Prices are given by Penna. refiners as their quotations to jobbing and compounding trade only. Prices to other refiners generally are lower.

Viscous Neutrals — No. 3 col. Vis. at 70° F.

200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.	24.50 (1)	24.50 (1)
10 p.t.	23.50 (1)	23.50 (1)
15 p.t.	22.50 (1)	22.50 (1)
25 p.t.	21.00	21.00
150 Vis. (143 at 100) 400-405 fl.		
0 p.t.	22.50 (1)	22.50 (1)
10 p.t.	21.50 (1)	21.50 (1)
15 p.t.	20.50 (1)	20.50 (1)
25 p.t.	19.00	19.00
Cylinder Stocks		
Brt. stk., 145-155 vis. at 210°, 540-550 fl., No. 8 col.		
10 p.t.	14.50 (1)	14.50 (1)
15 p.t.	13.50 (1)	13.50 (1)
25 p.t.	12.00 –13.00	12.00 –13.00
600 S.R. filterable	7.00 – 7.50	7.00 – 8.00
650 S.R.	8.00 – 9.00	8.00 – 9.00
600 fl.	9.00 – 9.50	9.00 – 9.50
630 fl.	11.00 –12.00	11.00 –12.00

MID-CONTINENT (F.o.b. Tulsa)

Neutral Oils (Vis. at 100° F. 0 to 10 P.P.)

Pale Oils:

Vis. Color		
60-85—No. 2	5.25 – 5.75	5.25 – 5.75
86-110—No. 2	5.25 – 6.25	5.25 – 6.25
150—No. 3	8.00 –10.25	8.00 –10.25
180—No. 3	8.50 –10.50	8.50 –10.50
200—No. 3	8.50 –11.00	8.50 –11.00
250—No. 3	10.00 –12.00	10.00 –12.00
280—No. 3	10.50 –13.75	10.50 –13.75
300—No. 3	11.50 –14.25	11.50 –14.25

Lubricating Oils (Cont'd)

Prices Effective	Oct. 28	Oct. 21
Red Oils:		
180—No. 5	8.50–9.00 (2)	8.50–9.00 (2)
200—No. 5	8.50–10.00 (2)	8.50–10.00 (2)
280—No. 5	11.50–12.00 (2)	11.50–12.00 (2)
300—No. 5	11.00 –12.00	11.00 –12.00

Note: Viscous Neutrals, 15-25 p.p. generally are quoted 0.5c under 0-10 p.p. oils. Non-viscous oils, 15-25 p.p., generally are quoted 0.25c under 0-10 p.p. oils.

Bright Stock—Vis. at 210°		
200 Vis. D	18.00 (1)	18.00 (1)
150-160 Vis. D:		
0 to 10 p.p.	13.50 –16.00	13.50 –16.00
10 to 25 p.p.	13.00 –15.50	13.00 –15.50
25 to 40 p.p.	12.50–15.00(2)	12.50–15.00 (2)
150-160 vis. E	12.50 –15.00	12.50 –15.00
120 Vis. D:		
0 to 10 p.p.	12.50 –15.25	12.50 –15.25
25 to 40 p.p.	14.375 (1)	14.375 (1)
600 S.R. Dark Green	7.00 (2)	7.00 (2)
600 S.R. Olive Green	8.00 – 9.50	8.00 – 9.50
631 S.R.	12.00 (1)	12.00 (1)
Black Oil	4.00–5.50 (2)	4.00–5.50 (2)

SOUTH TEXAS Neutral Oils

Vis. Color		
Pale Oils: (*Vis. at 100°F*)		
100 No. 1½-2½	5.25 – 5.50	5.25 – 5.50
200 No. 2-3	7.25	7.25
300 No. 2-3	7.75	7.75
500 No. 2½-3½	8.50	8.50
750 No. 3-4	8.75	8.75
1200 No. 3-4	8.875	8.875
2000 No. 4	9.00	9.00
Red Oils:		
200 No. 5-6	7.25	7.25
300 No. 5-6	7.75	7.75
500 No. 5-6	8.50	8.50
750 No. 5-6	8.75	8.75
1200 No. 5-6	8.875	8.875
2000 No. 5-6	9.00	9.00

CHICAGO (From Mid-Continent p.l. crude

Neutra Oils (Vis. at 100° F. 0 to 10 p.p.)

Pale Oils

Vis. Color		
60-85—No. 2	7.25	7.25
86-110—No. 2	7.25	7.25
150—No. 3	8.50	8.50
180—No. 3	9.50	9.50
200—No. 3	10.00	10.00
250—No. 3	11.00	11.00
Red Oils:		
180—No. 5	9.50	9.50
200—No. 5	9.50	9.50
250—No. 5	11.00	11.00
280—No. 5	12.00	12.00
300—No. 5	12.00	12.00

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower.

Unfiltered Steam Refined: (Viscosity at 210°)		
140	8.75	8.75
160	9.50	9.50
200	10.50	10.50
Bright stocks, 160 vis. at 210. No. 8 color:		
0 to 10 p.p.	15.00	15.00
15 to 25 p.p.	14.00	14.00
30 to 40 p.p.	13.50	13.50
E filtered Cyl. Stock	12.50	12.50

Note: To obtain prices delivered in Chicago, add 0.25c per gal.

Natural Gasoline

(Group 3 & Breckenridge prices are to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

FOB GROUP 3		
Grade 26-70	(k)2.75	(k)2.75
FOB BRECKENRIDGE		
Grade 26-70	(k)2.50	(k)2.50
CALIFORNIA (FOB plants in Los Angeles basin)		
75-85, 350-375 e.p. for blending	4.75 – 5.00	5.00 – 5.25

Naphtha and Solvent

Prices Effective	Oct. 28	Oct. 21
(FOB Group 3)		
Stoddard solvent	5.875	5.875
Cleaners' naphtha	6.375	6.375
V. M. & P. naphtha	6.375	6.375
Mineral spirits	5.375	5.375
Rubber solvent	6.375	6.375
Lacquer diluent	6.625– 7.375	6.625– 7.375
Benzol Diluent	7.875– 8.375	7.875– 8.375

Wax

White Crude Scale:

WESTERN PENNA. (Bbls., C.L., N. Y.)		
122-124 A.m.p.	2.85 – 3.00	2.75 – 3.00
124-126 A.m.p.	2.85 – 3.00	2.75 – 3.00
OKLAHOMA (Bbls. or burlap bags, C.L.)		
124-6 AMP.	3.00 (1)	3.00 (1)
131-3 AMP.	3.00 (1)	3.00 (1)

CHICAGO (FOB Chicago district refinery of one refiner, in bags or slabs loose, carloads. Melting points are EMP (ASTM) methods; add 3° F. to convert into AMP.)

Fully refined:		
122-124 (bags only)	5.60	5.60
125-127	5.60	5.60
127-129	5.85	5.85
130-132	6.15	6.15
132-134	6.40	6.40
135-137	7.15	7.15

Petrolatums

WESTERN PENNA. (Bbls., carloads; tauk cars, 0.5c per lb. less.)		
Snow White	5.125– 6.125	5.125– 6.125
Lily White	4.375– 5.125	4.375– 5.125
Cream White	3.375– 4.125	3.375– 4.125
Light Amber	2.625– 3.00	2.625– 3.00
Amber	2.375– 2.875	2.375– 2.875
Red	2.125– 2.625	2.125– 2.625

Group 3 Freight Rates

To Division Headquarters Points of Standard Oil Co. of Indiana

	Gasoline-Kerosine		Distillate-Oil-Fuel		Gas Oil
	Cents per Cwt.	Cents per gal. 6.6 lbs.	Cents per Cwt.	Cents per gal. 7.4 lbs.	
Chicago, Ill.	40	2.640	32	2.368	
Decatur, Ill.	39	2.574	31	2.294	
Joliet, Ill.	40	2.640	32	2.368	
Peoria, Ill.	39	2.574	31	2.294	
Quincy, Ill.	36	2.376	29	2.146	
Indianapolis, Ind.	48	3.168	39	2.886	
Evansville, Ind.	46	3.036	37	2.738	
South Bend, Ind.	49	3.234	**42	**3.108	
Detroit, Mich.	64	4.224	51	3.774	
Grand Rapids, Mich.	58.5	3.861	**50	**3.700	
Saginaw, Mich.	66	4.356	53	3.922	
Green Bay, Wis.	51	3.366	41	3.034	
Milwaukee, Wis.	43	2.838	34.5	2.553	
LaCrosse, Wis.	46	3.036	37	2.738	
Minneapolis-St. Paul	46	3.036	37	2.738	
Duluth, Minn.	52	3.432	41.5	3.071	
Mankato, Minn.	46	3.036	37	2.738	
Des Moines, Ia.	36	2.376	29	2.146	
Davenport, Ia.	39	2.574	31	2.294	
Mason City, Ia.	42	2.772	33.5	2.479	
St. Louis, Mo.	33	2.178	26.5	1.961	
Kansas City, Mo.	28	1.848	22.5	1.665	
St. Joseph, Mo.	28	1.848	22.5	1.665	
Fargo, N. D.	63	4.158	50.5	3.737	
Minot, N. D.	83	5.478	66.5	4.921	
Huron, S. D.	53	3.498	42.5	3.145	
Wichita					
From Ponca City	7.5	*0.495	7.5	†0.555	
From Tulsa	12.5	*0.825	12.5	†0.925	
From Cushing	11	*0.726	11	†0.814	

*This rate also includes distillate rate at 6.6 lbs. per gal.

**This rate applies only to residual fuel and gas oil.

†This rate is exclusive of distillate which is based on 6.6 lbs. per gal. from Ponca City, Tulsa and Cushing, Okla., to Wichita. Includes only gas oil and fuel oil.

NOTE: There is no Group 3 rate to Wichita, Kans.

(f) Prices FOB Central Michigan refinery group basis for shipment within Michigan: shipments may originate at plants outside Central group. (g) Excluding Detroit shipment. (h) For shipment to Ark. points only. (i) Quotations. (j) Sale. (k) Sales. (l) Pittsburgh district prices excluded.

SEABOARD PRICES EXPORT AND COASTWISE

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

Atlantic Coast

(Prices are of refiners, FOB their refineries & their tanker terminals, & of tanker terminal operators, FOB their terminals)—Prices Effective Oct. 28

MOTOR GASOLINE

District:	Min. 80 Oct. '39 Research (Max. 2 cc. Lead)	72-74 Oct. (ASTM)	68-70 Oct. (ASTM)	65-66 Oct. (ASTM)	60-64 Oct. (ASTM)
N. Y. Harb.	5.75 (2)	5.00 – 6.50	5.00 – 5.50	5.00 – 5.75	5.75–6.00 (2)
N. Y. Harb., barges	5.75 – 7.00	4.75 – 6.50	4.75 – 5.00	4.75 – 5.75	5.75–6.00 (2)
Albany	5.70 (1)	5.50	.....	.....	.....
Philadelphia	5.75 – 7.25	5.25 – 7.00	5.25 – 6.75	5.70 (1)	5.50 – 6.75
Baltimore	5.75 – 7.25	5.50 – 7.25	5.50–6.00 (2)	5.50 (1)	5.50 – 6.50
Norfolk	5.75 – 7.50	5.50 – 7.25	6.00–6.50 (2)	5.75 (1)	5.75 (1)
Wilm'ton	7.00 – 7.25	6.00 – 7.05	6.00 – 6.50	5.75 (1)	5.75 – 6.50
Char'ston	6.25–7.05 (2)	6.00 – 7.05	5.875–6.50 (2)	5.75 (1)	5.75–6.50 (2)
Savannah	6.25–6.50 (1)	6.25 – 6.50	5.875–6.375	.....	5.75–6.00 (2)
Jacksonville	6.25–6.50 (1)	6.25 – 6.50	5.875– 6.25	.....	5.375–6.00
Miami	6.25–6.50 (1)	6.25 (1)	5.875–6.125 (2)	.....	5.00 (1)
Tampa	6.25–6.50 (1)	6.25 (2)	5.875–6.125 (2)	.....	5.375–5.75 (2)
Pensacola	6.00–6.25 (1)	.....	5.50–5.75 (1)	.....	.....
Mobile	5.75–6.00 (1)	5.75 (2)	5.375–5.625 (2)	.....	5.00–5.375 (2)
Portland	5.70 (2)	5.60	5.60 (1)	.....	.....
Boston	5.70 (2)	5.25 – 5.60	5.50 (1)	5.25 – 5.70	5.35 (2)
Providence	5.60 (2)	5.60 – 6.50	.....	5.60 (2)	5.35–6.00 (2)

FUEL OILS

	KEROSINE and/or NO. 1 FUEL	No. 2	No. 3	No. 5	No. 6
N. Y. Harb.	4.80 – 5.10	4.10 – 4.40	4.10 – 4.40	$1.35 –$1.55	$1.15 –$1.25
N. Y. Harb., barges	4.70 – 5.00	(k) 4.00–4.30	(k) 4.00–4.30	.....	.....
Albany	5.20	4.40 (2)	4.40 (2)	$1.85 (1)	$1.45 (1)
Philadelphia	5.00 – 5.25	4.25	4.25	$1.37 –$1.47	$1.15 –$1.25
Baltimore	4.75	4.00	4.00	$1.37 (1)	$1.15 –$1.25
Norfolk	4.75 – 5.00	4.00 – 4.50	4.00 (2)	.....	$1.25 (2)
Wilmington	4.75 – 5.25	4.00 (2)	.....	.....	.....
Charleston	4.75 – 5.00	4.00 (2)	.....	.....	$1.20 (2)
Savannah	5.00 – 5.25	.....	.....	.....	$1.20 (1)
Jacksonville	5.00 – 5.25	4.25 (1)	4.25 (1)	.....	$1.20 (1)
Miami	5.125–5.25 (2)	.....	.....	.....	.....
Tampa	5.00 – 5.25	4.25 (1)	.....	.....	$1.15 (1)
Pensacola	5.125–5.25 (1)	.....	.....	.....	.....
Mobile	4.875– 5.00	.....	.....	.....	.....
Portland	5.30	4.50	4.50	$1.85 (1)	$1.25 –$1.45
Boston	5.20	4.40	4.40	$1.55–$1.65 (2)	$1.25
Providence	5.20	4.40	4.40	$1.50 –$1.65	$1.25

	Bunker C Fuel Ships' bunkers (Ex Lighterage)	Diesel Oil Ships' bunkers (Ex Lighterage)	Diesel Oil Shore Plants	Gas House Gas Oil 28-34 Gravity
N. Y. harbor	$1.15 –$1.25	$1.70	4.10	4.20
Albany	$1.45 (1)	$1.80	4.40	....
Philadelphia	$1.15 –$1.25	$1.70 –$1.95	....	....
Baltimore	$1.15 –$1.25	$1.70	4.00	4.00
Norfolk	$1.25	$1.68 –$1.70	4.00	4.00
Charleston	$1.20	$1.68 –$1.70	4.00	4.00
Savannah	$1.20 (1)	$1.785–$1.995	....	....
Jacksonville	$1.20	$1.785–$1.995	....	....
Tampa	$1.15	$1.785–$1.995	....	....
Portland	$1.25 –$1.45	$1.80	4.50	4.60
Boston	$1.25	$1.70	4.20 – 4.40	4.30 – 4.50
Providence	$1.25	$1.70	4.40	4.50

New York Export Lubes

(Penna. Products in bbls. FAS New York)

Prices Effective	Oct. 28	Oct. 21
Bright stock:		
Light, 25 p.t.	20.50 (1)	20.50 (1)
Neutral oil:		
200 3 color, 25 p.t.	.....	.....
150 3 color, 25 p.t.	25.50 (1)	25.50 (1)
600 s.r., unfilt.	16.00 (1)	16.00 (1)
650 s.r., unfilt.	17.00 (1)	17.00 (1)
600 fl. s.r.	18.00 (1)	18.00 (1)
630 fl., s.r.	20.00 (1)	20.00 (1)

Wax

(A.S.T.M. Tests. Melting points, however, are A.M.P., 3° higher than E.M.P. Export prices, FAS. c.l. Domestic prices, FOB. refr'ies., in bags, c.l., with 0.2c discount allowed for shipment in bulk, except where noted. Scale solid; fully refined slabs in bags)

Prices Effective Oct. 28

	New Orleans Export	N. Y. Domestic	N. Y. Export
Crude Scale:			
124-6 Yellow	2.75-3.00 (1)	....	2.75-3.00 (1)
122-4 White	.....	2.85–3.00	2.85–3.00
124-6 White	2.75-3.25 (2)	2.75–3.00	2.75–3.00
Fully Refined:			
123-5	....	5.60	5.60(2)
125-7	5.60(1)	5.60	5.60
128-30	6.15(1)	5.60–5.70(i)	5.60
130-2	6.15(1)	5.85(i)	5.85
133-5	6.40(1)	6.15(i)	6.15
135-7	7.15(1)	6.40(i)	6.40
108-11 White Match	....	....	3.25(l&j)

Naphtha

Prices Effective Oct. 28	V.M.&P. Naphtha	Mineral Spirits
Baltimore	9.50	8.00
New York Harbor	8.80 – 9.50	8.20 – 8.50
Philadelphia district	10.00	8.00 – 9.00
Boston	9.50	9.25 – 9.50
Providence	9.50	9.00 – 9.50
†Ohio points, delivered	8.75	*8.25

*This is on rubber solvent.

†Ohio prices are those of S. O. Ohio. Its prices for D.C. naphtha, special Varnolene, Varnolene and Sohio Solvent are same as for V.M.&P.

Pacific Export

(Quotations at seaboard, Los Angeles, cargo lots, except where otherwise noted.)

Prices Effective	Oct. 28	Oct. 21
375 e.p. blend, 70 oct.	4.50 – 5.625	4.50 – 5.625
390 e.p. blend, 68 oct.	4.375– 5.50	4.375– 5.50
390 e.p. blend, 66 oct.	4.375– 5.375	4.375– 5.375
400 e.p. blend, 65 oct. min.	4.25 – 5.25	4.25 – 5.25
U. S. Motor, under 65 octane	4.25 – 5.125	4.25 – 5.125
38-40 grav. w.w kero., 150 fire point	4.50 – 5.00	4.50 – 5.00
41-43 grav., w.w. kero.	4.75 – 5.00	4.75 – 5.00
44 grav., w.w. kero	5.00 – 5.50	5.00 – 5.50
Diesel fuel, 24 & above	$1.25 –$1.30	$1.25 –$1.30
Diesel fuel, under 24	$1.15 –$1.25	$1.15 –$1.25
30-34 grav. diesel (gas oil) Pac. Spec. 200	$1.25 –$1.35	$1.25 –$1.35
Grade C fuel, Pac. Spec. 400	$0.60 –$0.65	$0.60 –$0.65
In Ships' Bunkers, or deep tank lots:		
Diesel fuel, Pac. Spec. 200	$1.35 –$1.45	$1.35 –$1.45
Grade C fuel, Pac. Spec. 400	$0.65 –$0.75	$0.70 –$0.75

Pacific Export (Cont'd)

Prices Effective	Oct. 28	Oct. 21
Cased Goods: (Per case)		
U. S. M.	$1.45 –$1.55	$1.45 –$1.55
375-400 e.p. blend, 65 oct. & above	$1.60 –$1.70	$1.60 –$1.70
400 e.p. blend, under 65 oct.	$1.50 –$1.60	$1.50 –$1.60
40-43 grav. w.w. kero., 150 fire point	$1.40 –$1.50	$1.40 –$1.50
Kero., p.w.	$1.30 –$1.45	$1.30 –$1.45

Tanker Rates

(Approximate rates. Cents per bbl.)

	Last Paid	Owners Ask
Gulf-N. Atlantic: (not E. of N.Y.)		
Hvy. Crude & fuel, (10 to 19.9 gravity)	34	..
Light Crude, (30 grav. or Lighter)	30	..
Gasoline	36	..
Kerosine	38.5	..
No. 2 Fuel	41	..

Gulf Coast

(Prices for sales made or firm offers reliably reported for sales pending in cargoes FOB ship at Gulf, for minimum of 20,000 bbls. Prices are by refiners only to other refiners, export agents, or to large tanker terminal operators at the customary trade specifications noted.)

Prices Effective Oct. 28

Motor Gasoline Domestic	
Min. 80 oct., '39 Research, max. 2 cc. lead	4.00 – 5.00
60-62, Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	3.75 – 4.75
70 oct. unleaded (ASTM)	4.25
68 oct. unleaded (ASTM)	3.75 – 4.75
65 oct. unleaded (ASTM)	3.625– 4.625
60 oct. unleaded (ASTM)	3.625– 4.50
41-43 w.w. kerosine	3.875– 4.00
No. 2 fuel	3.25 – 3.75
Gas Oil—Less than ½ of 1% sulfur	
Below 43 diesel index	3.125– 3.25
43-47 diesel index	3.125– 3.375
48-52 diesel index	3.125– 3.625
53-57 diesel index	3.50
58 & above diesel index	3.75
Diesel Oil, ships' bunkers(ex-lighterage)	$1.50 –$1.70
Bunker C, ships' bunkers(ex-lighterage)	$0.80 –$0.90
Bunker C, cargoes	$0.80 –$0.85
Motor Gasoline Export	
60-62 Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	3.75 – 4.75
70 oct. unleaded (ASTM)	4.25
68 oct. unleaded (ASTM)	3.75 – 4.75
65 oct. unleaded (ASTM)	3.625– 4.625
60 oct. unleaded (ASTM)	3.625– 4.50
61-63 Gravity, Max. 390 e.p.	
72-74 oct. leaded (ASTM)	4.25
60 oct. unleaded (ASTM)	4.00
64-66 Gravity, Max. 375 e.p.	
72-74 oct. leaded (ASTM)	4.25
60 oct. unleaded (ASTM)	4.00
41-43 w.w. kerosine	3.875– 4.00
Gas Oil—Less than ½ of 1% sulfur	
Below 43 diesel index	3.125– 3.25
43-47 diesel index	3.125– 3.375
48-52 diesel index	3.125– 3.625
53-57 diesel index	3.50
58 & above diesel index	3.75

MID-CONTINENT LUBES

(At Gulf; in packages, FAS.; in bulk FOB terminals)

	Oct. 28 New Steel Drums	Bulk
200 vis. D. 210 brt. stock	25.50–25.80 (2)	19.80 (2)
150 vis. D 210 brt. stock 0-10 p.p.	21.50–21.80 (2)	15.80 (2)
10-25 p.p.	21.00 (1)	15.30 (1)
100 vis. D 210 brt. stock 0-10 p.p.	21.00 (1)	15.30 (1)
10-25 p.p.	20.50 (1)	14.80 (1)
200 vis. No. 3 col. neutral: 0-10 p.p.	17.00 (1)	11.30 (1)

SOUTH TEXAS LUBES

(Vis. at 100°, c. t. 0, blk exprt. shp., FOB terminals)

Unfiltered Pale Oils:	Oct. 28	Oct. 21
Vis. Color		
100 No. 3	6.00	6.00
200 No. 3	7.50	7.50
300 No. 3	8.00	8.00
500 No. 3½	9.00	9.00
750 No. 4	9.50	9.50
1200 No. 4	10.00 –11.00	10.00 –11.00
2000 No. 4	10.25	10.25
Red Oils:		
Vis. Color		
100 No. 5-6	6.00	6.00
200 No. 5-6	7.50	7.50
300 No. 5-6	8.00	8.00
500 No. 5-6	9.00	9.00
750 No. 5-6	9.50	9.50
1200 No. 5-6	10.00 –11.00	10.00 –11.00
2000 No. 5-6	10.25	10.25

(a) Actual last paid; 75,000 bbl. cargo of gasoline fixed at 28c without option for kerosine or No. 2 fuel. (i) Shipments in bags or in bulk. (j) Shipment in tight barrels. (k) Some oil said to be of Mexican origin is being offered at 3.875c.

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes; for commercial consumer discounts, see NPN for Feb. 21, 1940. These prices in effect Oct. 28, 1940 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Esso (*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gaso-line Taxes	Kero-sine T.W.
*Atlantic City, N. J.	6.5	8.1	4.5	7.4
*Newark, N. J.	6.5	8.1	4.5	7.4
Annapolis, Md.	7.85	8.35	5.5	9.5
Baltimore, Md.	7.25	8.25	5.5	8.5
Cumberland, Md.	8.65	9.65	5.5	10
Washington, D. C.	7.5	8.5	3.5	9.5
Danville, Va.	8.45	10.95	6.5	11
Norfolk, Va.	7.25	9.75	6.5	10.5
Petersburg, Va.	7.55	10.05	6.5	11.2
Richmond, Va.	7.55	10.05	6.5	10.5
Roanoke, Va.	8.75	11.25	6.5	11
Charleston, W. Va.	8.05	10.55	6.5	12.6
Parkersburg, W. Va.	7.35	9.85	6.5	11.2
Wheeling, W. Va.	8.35	10.75	6.5	11.8
Charlotte, N. C.	9.4	8.4	7.5	9.8
Hickory, N. C.	9.95	11.45	7.5	10.3
Mt. Airy, N. C.	9.8	11.3	7.5	10.2
Raleigh, N. C.	9.15	8.5	7.5	9.5
Salisbury, N. C.	9.45	8.50	7.5	9.9
Charleston, S. C.	7.25	9.75	7.5	9.25
Columbia, S. C.	8.1	10.6	7.5	11.5
Spartanburg, S. C.	8.8	11.3	7.5	12.2

	Mineral Spirits T.W.	V.M.P.& T.W.
Newark, N. J.	11.5	15.5
Baltimore, Md.	15.5	....
Washington, D. C.	15	....

Fuel Oils—T.W.	No. 1	No. 2	No. 3
Atlantic City, N. J.	7.4	6.1	6.1
Newark	7.4	6.1	6.1
Annapolis, Md.	....	6	....
Baltimore	6.75	6	5.5
Washington, D. C.	7	6.25	6.25
Norfolk, Va.	7	6	6
Petersburg	7.25	6.25	....
Richmond	7.25	6.25	6.25
Charlotte, N. C.	8.8	7.25	....
Hickory	....	7.5	....
Raleigh	8.5	7	....
Charleston, S. C.	8	6.5	....
Columbia	8.7	7.2	....
Spartanburg	9.8	8.3	....

*Effective Sept. 19, 1940, minimum retail resale price of 10.4c posted thru New Jersey.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w. price, thru territory, except New Jersey. While above posted prices continue at Atlantic City and Newark, dealers will pay net price of 7.5c per gal. for Esso: dealers having pumps marked only Esso, Esso Extra and Standard White gasoline will pay 7c per gal. for Esso.

Kerosine—1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore city contract not necessary) except no discount in state of New Jersey.

Naphthas—To buyers taking following quantities at one time: Newark, 2c per gal. on 200 gals. or more, less than 200 gals. 0.5c higher price; Baltimore, 2c off on 25 to 100 gals. and 3c on over 100 gals.; Washington, 2c off to contract buyers.

Socony-Vacuum Oil Co., Inc.

Socony Mobilgas (*Regular Grade*)††

	Com. T.C.	Div. Cons. T.W.	Com. Dlr. T.W.	Gaso-line Taxes	Kero-sine T.W.
New York City:					
Manhattan & Bronx	6.3	6.1	7.3	*5.5	7.9
Kings & Queens	6.3	6.1	7.3	*5.5	7.9
Richmond	6.3	6.1	7.1	*5.5	7.9
Albany, N. Y.	6.2	6.2	7.2	5.5	7.6
Binghamton, N. Y.	7.8	7.8	8.8	5.5	9.1
Buffalo, N. Y.	6.9	6.9	7.9	5.5	7.5
Jamestown, N. Y.	6.7	6.7	7.6	5.5	7.4
Plattsburg, N. Y.	6.4	7.1	8.1	5.5	8.2
Rochester, N. Y.	7.3	7.3	8.3	5.5	8.1
Syracuse, N. Y.	7	7	6.2	5.5	8.5
Bridgeport, Conn.	6.1	6.5	6	4.5	7.8
Danbury, Conn.	6.6	6.7	7.7	4.5	8.3
Hartford, Conn.	6.4	6.7	7	4.5	7.5
New Haven, Conn.	6.1	6.2	6.5	4.5	7.3
Bangor, Me.	6	7	8	5.5	8.1
Portland, Me.	5.6	6.6	7.6	5.5	7.7
Boston, Mass.	5.6	6.1	6.6	4.5	8
Concord, N. H.	6.8	7.4	8.4	5.5	8.6
Lancaster, N. H.	7.6	8.4	9.4	5.5	9.6
Manchester, N. H.	6.7	7.3	7	5.5	8.8
Providence, R. I.	5.6	6.1	7.1	4.5	8
Burlington, Vt.	6.8	7.2	6.8	5.5	8.2
Rutland, Vt.	6.8	7.3	6.8	5.5	8.6

	Mineral Spirits T.W.	V.M.&P. T.W.
Buffalo, N. Y.	9.4	10.1
†New York City	8.2	8.8
Rochester, N. Y.	10.2	10.9
Syracuse, N. Y.	11.1	11.8
Boston, Mass.	11	11
Bridgeport, Conn.	11.5	12
Hartford, Conn.	11	11.5
Providence, R. I.	11	12

Fuel Oils—T.W.	Mobilheat & Mobilheat Heavy
New York City	6
Albany, N. Y.	6.1
Rochester, N. Y.	6.9
Boston, Mass.	6.3
Bangor, Me.	6.8
Manchester, N. H.	7.1
Burlington, Vt.	7
Hartford, Conn.	6.5
New Haven, Conn.	6.5
Providence, R. I.	6.3

*Plus 2% city sales tax computed at time of each sale.

†Prices apply to consumers only in quantities over 1000 gals. annually; for quantities under 1000 gals. annually, add 0.5c per gal.

††Same prices apply for No. 1 fuel.

Discounts: Gasoline—To undivided dealers, 0.5c less than divided dealer t.w.

Atlantic Refining

Atlantic White Flash Gasoline (*Regular Grade*)

	Commercial T.C.	Dealer T.W.	Gaso-line Taxes	Kero-sine T.W.
Philadelphia, Pa.	7	8	5.5	10
Pittsburgh	7.5	9.5	5.5	10.5
Allentown	7.5	9	5.5	10.5
Erie	7	9.5	5.5	10
Scranton	6.4	6.9	5.5	10.5
Altoona	7.5	9.5	5.5	10.5
Emporium	7.5	9.5	5.5	10.5
Indiana	7.5	9.5	5.5	10.5
Uniontown	7.5	9.5	5.5	10.5
Harrisburg	7.5	9	5.5	10.5
Williamsport	7.5	9	5.5	10
Dover, Del.	....	8.5	5.5	10.5
Wilmington	....	8	5.5	10
Boston, Mass.	....	6.6	4.5	8
Springfield, Mass.	....	6.5	4.5	8.7
Worcester, Mass.	....	7	4.5	8.1
Fall River, Mass.	....	7.1	4.5	8.2
Hartford, Conn.	....	7	4.5	8.2
New Haven, Conn.	....	6.5	4.5	8.2
Providence, R. I.	....	7.1	4.5	8.2
Atlantic City, N. J.	....	7.5	4.5	7.4
Camden, N. J.	....	7.5	4.5	7.4
Trenton, N. J.	....	7.3	4.5	7.4
Annapolis, Md.	....	8.85	5.5	9.5
Baltimore, Md.	....	8.25	5.5	8.5
Hagerstown, Md.	....	9.35	5.5	10
Richmond, Va.	....	10.05	6.5	10.5
Wilmington, N. C.	....	9.85	7.5	8.8
Brunswick, Ga.	....	8	7.5	*9
Jacksonville, Fla.	....	6.5	8.5	10

	Mineral Spirits T.W.†	V.M.&P. T.W.†
Philadelphia, Pa.	12	14.5
Lancaster, Pa.	13.5	16
Pittsburgh, Pa.	14.5	14.5

Fuel Oils—T.W.	1	2	3	5	6
Phila., Pa.	8	6.25	6.25	4.25	3.50
Allentown, Pa.	8.5	6.25	6.25	....	....
Wilmington, Del.	8.00	6.25	6.25	....	....
Springfield, Mass.	8.7	6.8	6.8	....	....
Worcester, Mass.	8.1	6.6	6.6	....	....
Hartford, Conn.	8.2	6.5	6.5	....	....

*Does not include 1c Georgia kerosine tax.

†Mineral Spirits prices also apply to Stoddard Solvent; V.M.&P. prices also apply to Light Cleaners Naphtha.

Discounts:

‡Gasoline — to undivided dealers, 0.5c off dealer t.w., except Georgia & Florida dealer t.w. and undivided dealer t.w. prices are same.

Kerosine—Thru Penna. & Delaware, 2c off t.w. price on t.w. deliveries of 25 gals. or more at one time.

Naphthas—Philadelphia, 200 gals. or more at one time, 2c off, Lancaster, contract buyers taking 1000 gals. or more per year, one drum up, 2c off; non-contract buyers, 200 gals. or more at one time, 2c off. Pittsburgh, 500 gals. or more at one time, 2c off.

S. O. Ohio††

***Sohio X-70 Gasoline (*Regular Grade*)**

	Con-sumer T.W.	**Re-sellers	‡S.S.	Gaso-line Taxes	†Kero-sine T.W.
Ohio, Statewide	10.5	9	12.5	5.5	8
Akron	10.5	7.5	9.5	5.5	8
Cincinnati	10.5	7.5	10	5.5	8
Cleveland	10.5	8	11	5.5	8
Columbus	10.5	8	11	5.5	8
Dayton	10.5	7.5	10	5.5	8
Marietta	10.5	8.5	11	5.5	8
Portsmouth	10.5	9	12.5	5.5	8
Toledo	10.5	7.5	10	5.5	8
Youngstown	10.5	8	11	5.5	7.5

Esso Aviation Gasoline—Thru Ohio

	Consumer T.W.	Gasoline Taxes
74 octane	15.5	5.5
80 octane	16.5	5.5
87 octane	17.5	5.5

†Naphthas—Statewide	T.W.
S.R. Solvent	12.75
D.C. Naphtha	13.25
V.M.&P. Naphtha	13.25
Varnolene	13.25
Sohio Solvent	13.25

Fuel Oils—T.W.	No. 1	No. 2	No. 3	No. 4
Ohio, Statewide	8.0	8.0	7.5	....
Toledo	7.5	7.5	7.0	....
Cleveland	9.5	9.5	9.0	6.75

*Renown (third-grade) prices are same as X-70 unless otherwise noted.

**Except authorized agents.

†Kerosine prices are ex 1c state tax. Naphtha prices are ex 1.5c federal & 4c state tax.

‡Prices at company-operated stations.

††Statewide prices are subject to exceptions other than those shown.

Discounts:

Esso aviation—on contract to hangar operators and resellers, 2c off consumer t.w.

Fuel Oils—Statewide and Toledo prices are for t.w. deliveries of less than 50 gals.; t.w. and drum deliveries of over 50 gals. are 0.5c less. Cleveland Nos. 1, 2, and 3 prices are for bulk deliveries of 5 to 99 gals.; 100 gals. and over are 2c less. Cleveland No. 4 price is for full compartment hose dump only.

Naphthas—to contract consumers off t.w. prices; 300 to 999 gals., 0.5c; 1000 to 2499 gals., 0.75c; 2500 to 4999 gals., 1c; 5000 or more gals., 1.5c.

S. O. Kentucky

Crown Gasoline (*Regular*)
Standard (*Third Grade*)

	†Net Dealer Crown	Standard	Gaso-line Taxes	Kero-sine T.W.
Covington, Ky.	7	6.5	6.5	9
Lexington, Ky.	9	7	6.5	9
Louisville, Ky.	8.5	6.5	6.5	8.5
Paducah, Ky.	7.5	7	6.5	8.5
Jackson, Miss.	8.5	7.5	7.5	*8.5
Vicksburg, Miss.	8.5	7.5	7.5	*8
Birmingham, Ala.	9	8	*8.5	9
Mobile, Ala.	6	5	*9.5	8
Montgomery, Ala.	9	7.5	*9.5	*9
Atlanta, Ga.	7.5	6.5	7.5	*7
Augusta, Ga.	9.5	8.5	7.5	*8.5
Macon, Ga.	7.5	6.5	7.5	*8
Savannah, Ga.	8.5	7.5	7.5	*8
Jacksonville, Fla.	6.5	6	8.5	8
Miami, Fla.	7	6.5	8.5	8
Pensacola, Fla.	8	7	*9.5	8
Tampa, Fla.	6.5	6	8.5	8

*Taxes: In tax column are included these city and county gasoline taxes: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have 1c kerosine tax, Mississippi 0.5c, not included in above prices.

†Consumer t.w. prices are same as net dealer prices.

S. O. Indiana

Red Crown (*Regular Grade*)
Stanolind (*Third Grade*)

	Red Dealer Prices Crown Cons. T.W.	Red Crown	Stano-lind	Gaso-line Taxes	Kero-sine T.W.
Chicago, Ill.	11.1	8.1	6.4	4.5	10
Decatur, Ill.	10.1	8.6	6.2	4.5	9.5
Joliet, Ill.	11.1	9.6	6.7	4.5	10
Peoria, Ill.	11.1	8.7	8.1	4.5	10
Quincy, Ill.	10.9	9.4	6.2	4.5	9.8
Indianapolis, Ind.	11.3	9.3	8.9	5.5	*10
Evansville, Ind.	11.1	9.6	8	5.5	*9.8
South Bend, Ind.	11.3	9.8	8.8	5.5	*10
Detroit, Mich.	9.6	8.1	7.1	4.5	7.6
Grand Rapids, Mich.	8.2	6.7	6.7	4.5	9
Saginaw, Mich.	10.4	8.9	8.4	4.5	9.1
Green Bay, Wis.	11.9	10.4	8.9	5.5	10.3
Milwaukee, Wis.	11.3	9.8	9.3	5.5	10.2
La Crosse, Wis.	11.5	10	9.5	5.5	10.4
Minneapolis-St. Paul.	11.5	9.7	7.3	4.5	10.4
Duluth, Minn.	11.9	10.4	9.9	4.5	10.8
Mankato, Minn.	11.5	10	8.5	4.5	9
Des Moines, Ia.	10.9	9.4	7.9	4.5	*9.8
Davenport, Ia.	11.1	9.6	8.1	4.5	*10
Mason City, Ia.	11.3	9.8	6.9	4.5	*10.2
St. Louis, Mo.	10.7	8.7	7	*4.5	9
Kansas City, Mo.	10.3	7.3	6.3	*4.5	8
St. Joseph, Mo.	10.4	8.5	7.5	*4.5	7.9
Fargo, N. D.	12.7	11.2	9	5.5	11.6
Huron, S. D.	12	10.5	10	5.5	10.9
Wichita, Kans.	9.3	7.8	5.5	4.5	7

(Continued on next page)

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes; for commercial consumer discounts, see NPN for Feb. 21, 1940. These prices in effect Oct. 28, 1940 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. Indiana (Cont'd)

Stanavo Aviation 73 Octane

Chicago, Ill.	14.9		
Detroit, Mich.	16.5		4.5
Milwaukee, Wis.	15.1		5.5
Minneapolis, Minn.	15.3		4.5
St. Louis, Mo.	14.5		3.5
Kansas City, Mo.	14.2		*4.5
Fargo, N. D.	16.5		5.5
Huron, S. D.	15.8		5.5

	Oleum Spirits	V.M.&P. Naphtha	Stanisol	*Taxes
(Prices are base prices before discounts)				
Chicago	12.7	13	12.4	4.5
Detroit	15.2	14.2	15.7	4.5
K. C., Mo.	12.9	13.9	13.4	1.5
St. Louis	13.2	14.2	12.4	1.5
Milwaukee	13.8	14.8	14.3	5.5
Minneap'ls	14	15	12.7	4.5

†Fuel Oils—T.W.	No. 1 Fuel	Stanolex Furnace
Chicago	**6.75	6.75
Indianapolis	....	*7.5
Detroit	....	6.6
Milwaukee	8.2	7.7
Minneapolis	7.5	7.5
St. Louis	7.0	6.50
Kansas City	6.8	6.8

*Taxes: In gasoline tax column are included these city taxes—Kansas City, St. Joseph, and St. Louis, 1c. Indiana kerosine and fuel oil prices are ex 4c state tax: Iowa kerosine prices are ex 3c state tax. Ia naphtha tax column are included 1c federal tax and state taxes.

†Prices for small-lot deliveries range up to 2c higher than above prices.

**For 400 gals. & over; 150 to 399 gals., 7.25c; 100 to 149 gals., 7.5c; 1 to 99 gals., 8.5c.

S. O. Nebraska

Standard Red Crown Gasoline (*Regular Grade*)

	T.W.	Dealer	Gasoline Taxes	Kerosine T.W.
Omaha	10.9	9.4	6.5	9.5
McCook	10.5	7.9	6.5	9
Norfolk	11	8.9	6.5	9.9
North Platte	11.3	9	6.5	10.2
Scottsbluff	10.9	8.5	6.5	10.8

S. O. Louisiana

Esso (*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Little Rock, Ark.	7.25	8.5	8	10
Alexandria, La.	6.75	9.25	8.5	*9.5
Baton Rouge, La.	6.75	9.25	8.5	*9.5
New Orleans, La.	5.75	8.25	8.5	*9
Lake Charles, La.	6.75	9.25	8.5	*9
Shreveport, La.	5.5	8	8.5	*8
Lafayette, La.	7	9.5	8.5	*9
Bristol, Tenn.	10.25	10.25	8.5	12
Chattanooga, Tenn.	9.5	8.85	8.5	12
Knoxville, Tenn.	10	11.5	8.5	12.5
Memphis, Tenn.	8	9.5	8.5	11
Nashville, Tenn.	9	8	8.5	11

*New Orleans kerosine price is ex 1c parish tax, and all Louisiana kerosine prices are ex 1c state tax.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w.

Humble Oil & Refining Co.

Humble Motor Fuel (*Regular Grade*)

	Tank Truck	Retail	Gasoline Taxes	Kerosine T.W.
Dallas, Tex.	6	10	5.5	6
Ft. Worth, Tex.	6	10	5.5	7
Houston, Tex.	7	11	5.5	8
San Antonio, Tex.	7	11	5.5	8

Thriftane

(Leaded, 67 Octane, Purple Gasoline)

Dallas	5	8	5.5
Ft. Worth	5	8	5.5
Houston	5	8	5.5
San Antonio	5	8	5.5

74 Octane Aviation Gasoline, Clear

	Tank Car
FOB Baytown, Tex.	8.5

*To all classes of dealers & consumers.

The Texas Co.

	Gasoline—Dealer T.W. Fire-Chief (*Regular*)	Indian (*3rd Grade*)	Gasoline Taxes
Dallas, Tex.	6	5	5.5
Ft. Worth, Tex.	6	5	5.5
Wichita Falls, Tex.	7	5	5.5
Amarillo, Tex.	7	5	5.5
Tyler, Tex.	7	5	5.5
El Paso, Tex.	9	8	5.5
San Angelo, Tex.	7	5	5.5
Waco, Tex.	6.5	4.5	5.5
Austin, Tex.	7	5	5.5
Houston, Tex.	7	5	5.5
San Antonio, Tex.	7	5	5.5
Port Arthur, Tex.	7	5	5.5

Continental Oil

	Conoco Bronz-z-z (*Regular*) T.W.	Demand (*3rd Grade*)	Gasoline Taxes	Kerosine T.W.
Denver, Col.	9	8	5.5	10.5
Grand Junction, Col.	11	10	5.5	12.5
Pueblo, Col.	10	8	5.5	9
Casper, Wyo.	11	10	5.5	11.5
Cheyenne, Wyo.	9	8	5.5	11
Billings, Mont.	10	9	6.5	12
Butte, Mont.	9	8	6.5	13
Great Falls, Mont.	11	9.5	6.5	12
Helena, Mont.	9	8	6.5	12.5
Salt Lake City, Utah	10.5	9.5	5.5	14
Boise, Ida.	*12.1	11.1	6.5	16
Twin Falls, Ida.	*13.1	*12.1	6.5	16.5
Albuquerque, N. M.	9	8	*7	9.5
Roswell, N. M.	7	6	*7	8
Santa Fe, N. M.	9.5	8.5	*7.5	9.5
Ft. Smith, Ark.	7	5.75	5.5	6.5
Little Rock, Ark.	8	5.5	8	8
Texarkana, Ark.	8	5.5	5.5	6
Muskogee, Okla.	8	7	5.5	7
Oklahoma City, Okla.	6	5.5	5.5	6.5
Tulsa, Okla.	7	6	5.5	6

Conoco Special Gasoline (Aviation)

	T.W.	Gasoline Taxes
Denver, Colo.	13.5	5.5
Cheyenne, Wyo.	15.5	5.5
Helena, Mont.	15.5	6.5
Salt Lake City, Utah	18	5.5
Albuquerque, N. M.	14	*7

*Taxes: In gasoline tax column are included these city taxes—Albuquerque and Roswell, 0.5c; Santa Fe 1c. Idaho prices include 0.1c to cover 1-mill tax for toll bridges.

S. O. California

Standard Gasoline (*Regular Grade*)

	Tank Truck	Retail	Gasoline Taxes	Kerosine T.W
San Francisco, Cal.	12	13	4.5	11.5
Los Angeles, Cal.	11.5	12.5	4.5	10
Fresno, Cal.	13	14	4.5	12.5
Phoenix, Ariz.	14	15	6.5	*12.5
Reno, Nev.	14	15	5.5	13.5
Portland, Ore.	12.5	13.5	6.5	13.5
Seattle, Wash.	12.5	13.5	6.5	13.5
Spokane, Wash.	14	15	6.5	16.5
Tacoma, Wash.	12.5	13.5	6.5	13.5

Flight Gasoline (*Third Grade*)

San Francisco, Cal.	10	11	4.5	....
Los Angeles, Cal.	9.5	10.5	4.5	....
Fresno, Cal.	11	12	4.5	....
Reno, Nev.	12	13	5.5	....
Phoenix, Ariz.	11	12	6.5	....
Portland, Ore.	10.5	11.5	6.5	....
Seattle, Wash.	10.5	11.5	6.5	....
Spokane, Wash.	12	13	6.5	....
Tacoma, Wash.	10.5	11.5	6.5	....

Stanavo Aviation Gasoline

Phoenix, Ariz.	17.5	..	6.5	....
Los Angeles, Cal.	15	..	4.5	....
San Francisco, Cal.	15.5	..	4.5	....
Reno, Nev.	17.5	..	5.5	....
Portland, Ore.	16	..	6.5	....
Seattle, Wash.	16	..	6.5	....
Spokane, Wash.	19	..	6.5	....

*Taxes: Arizona kerosine prices are ex 5c state tax.

Discounts:

To 100% dealers—3c off t.w. on Standard and Stanavo Aviation; 2c off t.w. on Flight.

Canada

PRICES OF IMPERIAL OIL LTD.

Per Imperial Gallon, which is 1.2 U. S. Gallons

3-Star Imperial Gasoline (*Regular Grade*)

	T.W.	Gasoline Taxes	Kerosine T.W.
Hamilton, Ont.	16.5	8	17
Toronto, Ont.	16.5	8	17
Brandon, Man.	21	7	22.50
Winnipeg, Man.	20.5	7	22.5
Regina, Sask.	18	7	20
Saskatoon, Sask.	21	7	23
Edmonton, Alta.	18	7	20
Calgary, Alta.	16	7	18
Vancouver, B. C.	16	7	23
Montreal, Que.	16	8	16.5
St. John, N. B.	14.50	10	18
Halifax, N. S.	14.50	10	18

Discounts: Gasoline—Maritime Provinces—undivided & divided dealers, t.w. price; British Columbia—undivided and divided dealers, 2c off t.w. price; balance of territory—undivided dealers, 1c off t.w. price, divided dealers, t.w. price.

Price Changes

(These changes have been made in price tables)

S. O. New Jersey—Esso:

Charlotte dealer t.w. cut 0.6c, Oct. 24.
Raleigh dealer t.w. cut 0.5c, Oct. 24.

S. O. New Jersey—Kerosine:

Charlotte, Hickory, Mt. Airy, Raleigh and Salisbury t.w. cut 2c, Oct. 21.

Socony-Vacuum—Mobilgas:

Manhattan & Bronx and Kings & Queens divided dealer t.w. up 0.4c, Oct. 22.
Bangor divided dealer t.w. up 1.5c, Oct. 23.
Portland divided dealer t.w. up 2.1c, Oct. 23.

Socony-Vacuum—Kerosine:

Manhattan & Bronx, Kings & Queens and Richmond t.w. up 0.3c, Oct. 25.
Hartford t.w. cut 0.3c, Oct. 25.

Atlantic Refining—White Flash:

Scranton commercial t.c. cut 0.6c, dealer t.w. cut 1.85c, Oct. 17.

Atlantic Refining—Kerosine:

Boston, Springfield, Worcester, Fall River, Hartford, New Haven and Providence t.w. up 0.3c, Oct. 21.
Wilmington, N. C., t.w. cut 2c, Oct. 23.

S. O. Indiana—Red Crown:

Grand Rapids consumer t. w. cut 0.5c, Oct. 18.
Kansas City dealer cut 1.5c, Oct. 11.

S. O. Indiana—Stanolind:

Kansas City dealer cut 0.6c, Oct. 11.
Fargo dealer cut 0.8c, Oct. 23.

S. O. Nebraska—Red Crown:

McCook t.w. cut 0.5c, dealer cut 1c, Oct. 18.
Scottsbluff t.w. and dealer cut 1c, Oct. 22.

S. O. Nebraska—Kerosine:

McCook t.w. cut 0.9c, Oct. 18.

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates as given

EASTERN & CENTRAL STATES FIELDS

PENNSYLVANIA GRADE

Posted by Jos. Seep Purch. Agency (Aug. 28, 1940)

Bradford-Allegany $1.85
Southwest Penna $1.50
Eureka (West Va.) $1.44
Corning, O. (Nov. 4, 1939) $1.12

Posted by Tide Water Assoc. Oil Co. (Aug. 28, 1940)

Bradford-Allegany $1.85

Posted by The Pennzoil Co. (Aug. 28, 1940)

National Transit $1.78*

Posted by Valvoline Pipe Lines (Aug. 28, 1940)

Bradford (Elk & McKean Counties, Pa.) $1.85
Warren, Forest, Venango, Clairon & Butler Counties, Pa $1.78
Allegheny, Beaver, Washington & Greene Counties, Pa $1.50
West Virginia $1.44
South Eastern Ohio $1.40

*Applies to Cochran, Franklin, Hamilton & Doolittle districts; prices in other lower districts range down to $1.73 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co. (Aug. 24, 1940)

Midland, Midland County $1.12
Sherman $1.07
Clare-Freeman $1.07

Posted by Simrall Corp. (Aug. 24, 1940)

Crystal, Greendale, Porter, Vernon and Wise $1.12
Beaverton, Buckeye, Bentley, Edenville $1.10
Freeman and Redding $1.07
Arenac $0.92
West Branch $0.92

Posted by Sohio Corp. (Michigan Division)

Allegan & Kent Counties (Aug. 24, 1940) $1.18
Van Buren County (Sept. 3, 1940) $1.12

Posted by Bay Pipe Line Corp. (Aug. 24, 1940)

Bentley and Buckeye $1.10
Saginaw and Wise ..... $1.12 Clare $0.81

ILLINOIS-INDIANA-KENTUCKY

Posted by Sohio Corp.

Illinois Basin, including Griffin pool (Aug. 21, '40) $1.15
Carmi, Storms, Ill. area (Oct. 1, '40) 1.03
Birk City, Ky. area (Aug. 21, '40) 1.05
Corydon, Ky. area, Henderson (Aug. 21, '40) 1.05

Posted by Ohio Oil Co.

Illinois Basin (Aug. 21, '40) $1.15
Illinois & Western Indiana (Aug. 23, '40) 1.00

Posted by Carter Oil Co. (Aug. 21, '40)

Louden, Fayette Co. Ill. $1.15

Posted by Mohawk Oil Lines, Inc. (Aug. 21, '40)

So. Illinois heavy ..$1.05 Light $1.15

Posted by Ashland Oil & Transp. Co.

Somerset oil in Ashland Lines, Ky.:
(Aug. 21, '40)

Big Sandy River ..$1.12 Kentucky River ..$1.20

Posted by Owensboro-Ashland Co.

Owensboro, Ky. area (Aug. 21, '40) $1.10

MID-CONTINENT

OKLAHOMA-KANSAS-NORTH TEXAS

(See below for companies posting and effective dates)

Gravity	Schedule No. 1	Schedule No. 2	Schedule No. 3	Schedule No. 4	Schedule No. 5
Below 21	$0.70	$0.60	....	....	$0.63
21-21.9	.72	.63	....	....	.65
22-22.9	.74	.66	....	....	.67
23-23.9	.76	.69	....	....	.69
24-24.9	.78	.72	....	....	.71
25-25.9	.80	.75	....	$0.58	.73
26-26.9	.82	.78	....	.63	.75
27-27.9	.84	.81	....	.68	.77
28-28.9	.86	.84	$0.86	.73	.79
29-29.9	.88	.87	.88	.78	.81
30-30.9	.90	.90	.90	.82	.83
31-31.9	.92	.92	.92	.86	.85
32-32.9	.94	.94	.94	.90	.87
33-33.9	.96	.96	.96	.96	.89
34-34.9	.98	.98	.98	.98	.91
35-35.9	1.00	1.00	1.00	1.00	.93
36-36.9	1.02	1.02	1.02	1.02	.95
37-37.9	1.04	1.04	1.04	1.04	.97
38-38.9	1.06	1.06	1.06	1.06	.99
39-39.9	1.08	1.08	1.08	1.08	1.01
40 & above	1.10	1.10	1.10	1.10	1.03

Above schedules posted by:

No. 1: S. O. Indiana Oct. 17, '38 in Okla. & Kans.

No. 2: Carter Oct. 13, '38 in Okla.; Magnolia Oct. 12, '38 in Okla.; Shell Oct. 22, '38 in Okla. & Kans.

No. 3: Continental Oct. 11, '38 in Okla. & Kans. with lowest grade Below 29; Texas Co. Oct. 12, '38 in Okla. & Kans.

No. 4: Sinclair-Prairie Aug. 31, '39 in Okla. & Kans.

No. 5: Stanolind Sept. 1, '40 in N. Texas; Continental Oct. 11, '38 in N. Texas; Texas Co. Oct. 12, '38 in N. & N. Central Texas; Magnolia Dec. 3, '38 in N. & N. Central Texas; Sinclair-Prairie July 16, '40 in Mexia & N. Central Texas. Texas Co.'s lowest grade is 28-28.9 at $0.79; Continental, Magnolia and Sinclair-Prairie postings begin with Below 29 at $0.79.

TEXAS & NEW MEXICO FIELDS

Posted by Humble Oil & Refining Co. (Oct. 2, '39)

Gravity	West Central Texas	East Central Texas	Gray County	Carson-Hutchinson Counties	Tomball, etc.	W. Texas & N. Mexico	Texas Gulf Coast & Mirando	Anahuac-Dickinson	Refugio
Below 20	....	....	....	....	....	$0.53	$0.86	$0.81	$0.91
20-20.9	....	....	....	....	....	.55	.88	.83	.93
21-21.9	....	....	....	....	....	.57	.90	.85	.95
22-22.9	....	....	....	....	$0.95	.59	.92	.87	.97
23-23.9	....	$0.78	....	....	.97	.61	.94	.89	.99
24-24.9	$0.71	.80	....	....	.99	.63	.96	.91	1.01
25-25.9	.73	.82	....	....	1.01	.65	.98	.93	1.03
26-26.9	.75	.84	....	....	1.03	.67	1.00	.95	1.05
27-27.9	.77	.86	....	....	1.05	.69	1.02	.97	1.07
28-28.9	.79	.88	$0.72	$0.67	1.07	.71	1.04	.99	1.09
29-29.9	.81	.90	.74	.69	1.09	.73	1.06	1.01	1.11
30-30.9	.83	.92	.76	.71	1.11	.75	1.08	1.03	1.13
31-31.9	.85	.94	.78	.73	1.13	.77	1.10	1.05	1.15
32-32.9	.87	.96	.80	.75	1.15	.79	1.12	1.07	1.17
33-33.9	.89	.98	.82	.77	1.17	.81	1.14	1.09	1.19
34-34.9	.91	1.00	.84	.79	1.19	.83	1.16	1.11	1.21
35-35.9	.93	1.02	.86	.81	1.21	.85	1.18	1.13	1.23
36-36.9	.95	1.04	.88	.83	1.23	.87	1.20	1.15	1.25
37-37.9	.97	1.06	.90	.85	1.25	.89	1.22	1.17	1.27
38-38.9	.99	1.08	.92	.87	1.27	.91	1.24	1.19	1.29
39-39.9	1.01	1.10	.94	.89	1.29	.93	1.26	1.21	1.31
40 & above	1.03	1.12	.96	.91	1.31	.95	1.28	1.23	1.33

W. Central Tex. includes crudes purchased in Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, Throckmorton & Young Cos., Tex.

E. Central Tex. includes crudes purchased in Anderson, Cherokee, Limestone & Navarro Cos., Tex.

W. Tex. & N. Mex. includes crudes purchased in Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler & Yoakum Cos., Tex. & Lea Co., N. Mex.

Tex. Gulf Coast includes crudes purchased in Goose Creek, Sugarland, Thompsons, Mykawa, Amelia, Webster & Clear Lake fields.

Anahuac-Dickinson includes crudes purchased in Gillock, Cedar Point, Fairbanks, Turtle Bay, Hull, Pierce Junction & Raccoon Bend (Shallow Sand) fields.

Refugio includes crudes purchased in Saxet, East White Point, Greta, O'Connor-McFadden, Taft, Plymouth & Tom O'Connor fields.

Mirando includes crudes purchased in Duval, Jim Hogg, Webb & Zapata Cos., Tex. & in Heyser & Placedo fields

Postings for Raccoon Bend (Deep Sand) & Satsuma crudes are same as for Tomball.

East Texas $1.10
Van ..... .93
Pecos ..... .78
Talco $0.65
Conroe 1.27
Hardin 1.10
Flour Bluff & Jim Wells Cos. $1.23
Salt Flat, Darst Creek, Hilbig, Carroll, Clark & Zoboroski ..... .96

MAGNOLIA PETROLEUM CO.

Gray, Carson & Hutchinson Cos., Tex.—Dec. 3, '38—same as Humble.

Tomball, Tex.—Dec. 3, '38—same as Humble.

West Texas—Oct. 12, '38, in Crane, Glasscock, Howard, Mitchell, Upton & Winkler Cos.—same as Humble except Magnolia begins with Below 25 at $0.63.

N. Mexico—Oct. 15, '39, in Lea Co.—same as Humble except Magnolia begins with Below 25 at $0.63 and ends with 36 & above at $0.87.

Mirando, Tex.—Oct. 2, '39—same as Humble.

Beaumont, Tex.—Oct. 2, '39—same as Humble Texas Gulf Coast.

Cass & Panola Cos., Tex.—Oct. 12, '38—Below 25 grav. oil at $0.73, plus 2c per degree of gravity to top of 40 & above at $1.05.

Following Tex. postings Oct. 12, '38:

East Texas $1.10
Darst Creek ..... .96
Luling ..... .87
Lytton Springs ..... .99
Cleveland (Liberty Co.) $1.14
Hardin (Liberty Co.) 1.02

SINCLAIR-PRAIRIE OIL MARKETING CO.

Gray, Carson & Hutchinson Cos., Tex.—
Aug. 31, '39—same as Humble.

West Texas & Lea Co., N. Mex.—Aug. 31, '39—same as Humble, except Sinclair begins with Below 25 at $0.63 and ends with 36 & above at $3.87.

Texas Gulf Coast—Oct. 3, '39—same as Humble.

East Texas (Oct. 2, '39) $1.10
Eddy Co., N. Mex. (Aug. 31, '39) .. .77
Long Lake, in Anderson, Leon & Freestone Cos., Tex. (Jan. 20, '40) $1.08

STANOLIND OIL PURCHASING CO.

Tomball, Tex.—Aug. 29, '39—same as Humble except Stanolind begins with Below 29 at $1.07.

Texas Gulf Coast—Oct. 3, '39, in Clinton field—same as Humble Texas Gulf Coast except Stanolind begins with Below 21 at $0.88.

West Beaumont, Jefferson Co., Tex.—Oct. 2, '39—same as Humble Texas Gulf Coast.

THE TEXAS CO.

(Effective Oct. 2, '39)

Panhandle, Tex.—Sweet crude same as Humble's Gray Co. except Texaco begins with 34-34.9 at $0.84. Sour crude same as Humble's Carson & Hutchinson Cos. except Texaco begins with 34-34.9 at $0.79.

West Texas & Lea Co., N. Mex.—Same as Humble except Texaco begins with Below 26 at $0.65 and ends with 36 & above at $0.87.

Texas Gulf Coast—Same as Humble except Texaco ends with 34 & above at $1.16.

Mirando-Duval, Tex.—Same as Humble except Texaco ends with 28 & above at $1.04.

Refugio, Tex.—Same as Humble except Texaco ends with 28 & above at $1.09.

Following Tex. postings Oct. 12, '38:

East Texas $1.10
Darst Creek ..... .96
Cass Co. $1.05
Conroe 1.27

SHELL OIL CO., INC.

West Texas & Lea Co., N. Mex.—Aug. 29, '39, & Yoakum Co., Tex. Sept. 1, '39—same as Humble except Shell ends with 36 & above at $0.87.

Fisher Co., Tex.—Aug. 29, '39—Below 25 grav. at $0.68, plus 2c per degree of gravity up to 40 & above at $1.00.

Following Tex. postings Oct. 5, '39:
East Texas $1.10
Livingston area, Polk Co. 1.10

Following Tex. postings Aug. 29, '39:
Pecos Co., except Yates Shallow pool $0.78
Pecos Co., Yates Shallow pool ..... .65

CONTINENTAL OIL CO.

Eddy Co., N. Mex.—Apr. 22, '40—Begins with 28-28.9 at $0.61, plus 2c per degree gravity up to 40 & above at $0.85.

Mirando, Tex.—Oct. 2, '39—same as Humble.

Refugio, Tex.—Oct. 2, '39—same as Humble.

PAN AMERICAN PIPE LINE CO.

Hastings & So. Houston, Tex. crudes—Oct. 1, '40—same as Humble Texas Gulf Coast except Pan Am. begins with Below 21 at $0.88.

Cayuga, Anderson Co., Tex.—Oct. 2, '39—$0.78.

CRUDE OIL PRICES *(Continued from preceding page)*

CALIFORNIA *Posted by Standard Oil of California*

All gravities above those quoted take highest price offered in the field. Prices effective Feb. 1, 1940

Gravity	Signal Hill (Long Beach) and others*	Seal Beach	Huntington Beach	Inglewood	Playa Del Rey	Olinda Brea Canon	Athens-Roacerans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley Canal	Colea Leyse, Richfield Western	Mountain View and others**	Elk Hills	Buena Vista Hills, Midway-Sunset, Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria Val. (Union Oil, Sept. 1 '39)
14-14.9	$0.65	$0.64	$0.63	$0.64	$0.65	$0.61	....	$0.65	$0.61	$0.61	$0.62	$0.63	....	....	....	$0.60	$0.60	$0.60	$0.60	$0.60	....	$0.42
15-15.9	.65	.64	.63	.64	.65	.61	....	.65	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	.44
16-16.9	.65	.64	.63	.64	.65	.61	....	.65	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	.45
17-17.9	.65	.64	.63	.68	.65	.61	....	.65	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	.46
18-18.9	.65	.64	.63	.71	.65	.65	....	.68	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	....
19-19.9	.69	.64	.67	.75	.70	.69	....	.72	.61	.65	.62	.63	....	....	....	.60	.64	.64	.64	.61	$0.60	....
20-20.9	.73	.64	.72	.79	.76	.74	....	.75	.65	.69	.62	.67	....	....	....	.60	.69	.69	.69	.62	.60	....
21-21.9	.78	.64	.76	.82	.81	.78	....	.79	.69	.73	.62	.72	$0.63	....	....	.64	.74	.74	.74	.66	.60	....
22-22.9	.82	.69	.81	.86	.86	.82	....	.82	.73	.77	.66	.76	.63	....	....	.68	.79	.79	.78	.70	.63	....
23-23.9	.86	.75	.85	.89	.92	.86	$0.71	.86	.78	.82	.71	.81	.67	....	....	.71	.84	.84	.82	.74	.67	....
24-24.9	.90	.80	.90	.93	.97	.90	.77	.89	.82	.86	.75	.85	.72	....	....	.75	.89	.89	.86	.78	.71	....
25-25.9	.95	.86	.94	.96	1.02	.95	.82	.93	.86	.90	.80	.89	.77	....	....	.79	.94	.94	.90	.82	.75	....
26-26.9	.99	.91	.99	1.00	1.08	.99	.88	.96	.90	.94	.84	.94	.82	....	....	.83	.99	.99	.95	....	....	....
27-27.9	1.03	.97	1.03	1.04	....	1.03	.94	1.00	.94	.98	.89	.98	.87	$0.83	$0.92	.87	1.04	1.04	.99	....	....	....
28-28.9	1.07	1.02	1.07	1.07	....	1.07	.99	1.03	.98	....	.93	1.02	.91	.86	.96	.91	1.09	1.09	1.03	....	....	....
29-29.9	1.10	1.07	1.11	1.10	....	1.10	1.04	1.06	1.02	....	.98	1.06	.96	.90	.99	.95	1.14	1.14	1.07	....	....	....
30-30.9	1.14	1.12	1.15	1.14	....	1.14	1.09	1.09	....	....	1.02	1.10	1.01	.94	1.02	.99	1.19	1.19	1.11	....	....	....
31-31.9	....	....	....	1.17		1.17	1.14	Elwood Terrace			1.07	1.14	1.05	.98	1.06	1.02	1.24	1.24				....
32-32.9	....	....	....	1.20		1.20	1.19	F. o. b. ship.			1.11	1.18	1.09	1.02	1.09	1.06	1.29	1.29	Kettleman Hills			....
33-33.9	....	....	....	....		....	1.24	....	$1.21	....	1.15	1.22	1.14	1.06	1.13	1.10	1.34	1.34	....	$1.12	....	....
34-34.9	....	....	....	....		....	1.29	....	1.25	....	1.20	1.26	1.19	1.10	1.16	1.14	....	....	....	1.17	....	....
35-35.9	....	....	....	....		....	1.34	....	1.29	....	1.24	....	1.23	1.14	1.20	....	....	....	....	1.21	....	....
36-36.9	....	....	....	....		....	1.39	....	1.33	....	1.28	....	1.27	1.18	1.23	....	....	....	....	1.25	....	....
37-37.9	....	....	....	....		....	1.44	....	1.37	....	1.33	....	1.31	1.22	1.26	....	....	....	....	1.29	....	....
38-38.9	....	....	....	....		....	1.49	....	....	....	1.37	....	1.36	1.25	1.30	....	....	....	....	1.33	....	....
39-39.9	....	....	....	....		....	1.54	....	....	....	1.42	....	....	1.29	1.34	....	....	....	....	1.38	....	....
40-40.9	....	....	....	....		....	1.59	....	....	....	1.46	....	....	1.33	1.37	....	....	....	....	....	....	....
41-41.9	....	....	....	....		....	....	....	....	....	1.50	....	....	1.37	1.40	....	....	....	....	....	....	....
42-42.9	....	....	....	....		....	....	....	....	....	1.54	....	....	1.41	1.44	....	....	....	....	....	....	....
43-43.9	....	....	....	....		....	....	....	....	....	1.59	....	....	1.45	1.47	....	....	....	....	....	....	....
44-44.9	....	....	....	....		....	....	....	....	....	1.63	....	....	1.49	1.51	....	....	....	....	....	....	....
45-45.9	....	....	....	....		....	....	....	....	....	1.67	....	....	1.53	1.54	....	....	....	....	....	....	....
46-46.9	....	....	....	....		....	....	....	....	....	1.71	....	....	1.57	1.57	....	....	....	....	....	....	....
47-47.9	....	....	....	....		....	....	....	....	....	....	....	....	1.61	....	....	....	....	....	....	....	....
48-48.9	....	....	....	....		....	....	....	....	....	....	....	....	1.64	....	....	....	....	....	....	....	....

FOB Standard Pipeline

*El Segundo prices same as Signal Hill. Wilmington prices same as Signal Hill, except below 19 gravity prices are: 14-16.9, $0.60; 17-17.9, $0.62; 18-18.9, $0.64.
**Includes Newhall, McKittrick, Kern River, Round Mountain and Kern Front, schedule for which ends with 19-19.9. Mountain View schedule begins with 19-19.9.

LOUISIANA-ARKANSAS

Posted by S. O. Louisiana, Oct. 17, '40

Gravity	Bunkie, La. etc.	Caddo, La. etc.	Darrow, La. etc.	University, La. (Baton Rouge)	Atlanta, Ark. etc.
Below 21	....	....	$0.75	$0.91	$0.55
21-21.9	....	....	.77	.93	.57
22-22.9	....	....	.79	.95	.59
23-23.9	....	....	.81	.97	.61
24-24.9	....	....	.83	.99	.63
Below 25	$0.83	$0.73	....	....	....
25-25.9	.85	.75	.85	1.01	.65
26-26.9	.87	.77	.87	1.03	.67
27-27.9	.89	.79	.89	1.05	.69
28-28.9	.91	.81	.91	1.07	.71
29-29.9	.93	.83	.93	1.09	.73
30-30.9	.95	.85	.95	1.11	.75
31-31.9	.97	.87	.97	1.13	.77
32-32.9	.99	.89	.99	1.15	.79
33-33.9	1.01	.91	1.01	1.17	.81
34-34.9	1.03	.93	1.03	1.19	.83
35-35.9	1.04	.94	1.04	1.20	.84
36-36.9	1.05	.95	1.05	1.21	.85
37-37.9	1.06	.96	1.06	1.22	.86
38-38.9	1.07	.97	1.07	1.23	.87
39-39.9	1.08	.98	1.08	1.24	.88
40 & above	1.09	.99	1.09	1.25	.89

Bunkie, La. schedule includes Eola and Olla, La.

Caddo, La. schedule includes De Soto, Homer, Sabine & Sugar Creek, La., Fouke & Miller County, Ark.

Darrow, La. schedule includes, Bayou des Glaise, Bayou Mallet, Choctaw, Jeanerette, Lirette, No. Crowley, Port Barre, Potash, Roanoke & St. Martinville, La.

Atlanta, Ark. schedule includes Buckner, Magnolia, Village & Schuler (Jones Sand Oil), Ark.

Cotton Valley:
Crude..... $1.05
Distillate..... 1.10
Holloway Sand
Crude..... 1.10
Rodessa..... $1.05
Shreveport (Cross Lake)..... 1.05
Smackover (Heavy)..... .73
Dorcheat, Big Creek, & McKamie (Sour Distillates)..... .95

(Continued in next column)

LOUISIANA-ARKANSAS (Cont'd)

Posted by Shell Oil Co., Inc. (Aug. 29, '39)
Iowa District, La.

Below 18	$0.75	23-23.9	$0.89	29-29.9	$1.04	
18-18.9	.77	24-24.9	.92	30-30.9	1.06	
19-19.9	.79	25-25.9	.95	31-31.9	1.08	
20-20.9	.81	26-26.9	.98	32-32.9	1.10	
21-21.9	.83	27-27.9	1.00	33-33.9	1.12	
22-22.9	.86	28-28.9	1.02	34 & above	1.14	

Black Bayou & White Castle Districts, La.—same as Iowa District, except Black Bayou, etc. begins with Below 20 at $0.79.

Gibson Field, Terrebonne Parish, La.....$1.04
Happytown Field, St. Martin, Parish, La.
(Jan. 12, '40)..... 1.00

Posted by Arkansas Fuel Oil Corp.
Urania, La. (Oct. 14, '38).....$0.89

Posted by Continental Oil Co.
Tepetate & Ville Platte, La. (Oct. 11, '38)....$1.03

Abbeville, La. (Jan. 1, '39)

Below 36	$0.92	37-37.9	$0.96	39-39.9	$1.00
36-36.9	.94	38-38.9	.98	40 & above	1.02

Posted by Caddo Crude Oil Purchasing Corp.
Allison area, Shrv'prt. field (Aug. 14, '39).....$0.95

Lisbon, N. La. (Sept. 14, '39)

27-27.9	$0.66	30-30.9	$0.72	33-33.9	$0.78
28-28.9	.68	31-31.9	.74	34-34.9	.80
29-29.9	.70	32-32.9	.76	35 & above	.82

CANADIAN FIELDS

Posted by Imperial Oil Limited
Western Ontario (Nov. 6, 1939)

Petrolia.....$2.10 Oil Springs.....$2.17

Turner Valley Crude Oil (Sept. 12, 1940) (Prices FOB producer's tankage)

33-33.9	$1.08	44-44.9	$1.30	55-55.9	$1.52
34-34.9	1.10	45-45.9	1.32	56-56.9	1.54
35-35.9	1.12	46-46.9	1.34	57-57.9	1.56
36-36.9	1.14	47-47.9	1.36	58-58.9	1.58
37-37.9	1.16	48-48.9	1.38	59-59.9	1.60
38-38.9	1.18	49-49.9	1.40	60-60.9	1.62
39-39.9	1.20	50-50.9	1.42	61-61.9	1.64
40-40.9	1.22	51-51.9	1.44	62-62.9	1.66
41-41.9	1.24	52-52.9	1.46	63-63.9	1.68
42-42.9	1.26	53-53.9	1.48	64 & over	1.70
43-43.9	1.28	54-54.9	1.50		

Absorption Gasoline (Jan. 5, 1938)

90% Rec., 20 lb. Reid v.p.....$1.94
90% Rec., 17 lb. Reid v.p.....$2.08

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co. (Oct. 11, '38)

Salt Creek (except Tensleep crude), Midway and Dutton Creek, Wyo., same schedule as S. O. Indiana posts in Okla.-Kans., ranging from $0.86 to $1.10, which see in next column.

Tensleep crude....$0.646
Hes, heavy..... .92
Elk Basin, light... .90
Grass Creek, light. .90
Frannie, light.....$0.55
Grass Creek, heavy .40
Hamilton Dome, Wyo..... .35
Frannie, heavy..... .42

Posted by Ohio Oil Co. (Oct. 11, '38)

Elk Basin, Wyo.. $0.90
Grass Creek, light. .90
Rock Creek.....$1.00
Lance Creek..... .77
Dry Creek, Mont..... .92
Grass Creek, heavy (May 1, '38)..... .50
Sunburst, Mont. (Nov. 16, '37)..... .90

Posted by Continental Oil Co. (Oct. 11, '38)
Ft. Collins & Wellington, Col.

Below 29	$0.81	32-32.9	$0.89	36-36.9	$0.97
29-29.9	.83	33-33.9	.91	37-37.9	.99
30-30.9	.85	34-34.9	.93	38-38.9	1.01
31-31.9	.87	35-35.9	.95	39-39.9	1.03
				40 & above	1.05

Canon City & Florence, Col.....$0.90
Cat Creek, Mont.. 1.10
Big Muddy, Wyo..$0.98
Lance Creek, Wyo. 0.77

CLASSIFIED

Address all Blind Box Number ads to National Petroleum News, 530 Penton Building, Cleveland, Ohio, unless otherwise specified.

For Sale

For Sale—"LUBRILOG" oil tester. Viscosimeter, flash and fire and centrifuge combined. 60 cycle. Have 50 cycle here and can not use it. Box No. 821.

DEPARTMENT OF THE INTERIOR CALL FOR BIDS TO PURCHASE ROYALTY OIL ACCRUING TO THE UNITED STATES FROM THE SALT CREEK, WYOMING, OIL FIELD. Sealed proposals, in duplicate, will be received in the office of the Secretary of the Interior, Washington, D. C., on or before noon, November 15, 1940, from responsible bidders for the purchase, beginning January 1, 1941, of royalty oil accruing to the United States from Government lands in the Salt Creek, Wyoming, oil field. Detailed specifications on quantities offered for sale, required form of bids, deliveries, volume measurements, gravity determinations, bond requirements, and action on bids, should be obtained by prospective bidders from the Director, Geological Survey, United States Department of the Interior, Washington, D. C., the Supervisor, United States Geological Survey, Casper, Wyoming, or the Register, United States Land Office, Cheyenne, Wyoming. Sealed bids are to be submitted to the Secretary of the Interior, Washington, D. C., pursuant to the specifications, the envelope to be marked plainly "Bid on Salt Creek Royalty Oil—Not to be Opened Before Noon, November 15, 1940." No bid received after the time fixed herein for submitting bids will be considered. The right is reserved to reject all bids received pursuant to this advertisement whenever in the judgment of the Secretary of the Interior the interest of the United States demands. (Sgd.) A. J. Wirtz, Acting Secretary of the Interior.

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· PERSONALS ·

"Will be in on the 'Rocket' Stop Have the band and the flags at the station for my reception" was the essence of the wire received by **Gene MacElvaney** of the I.P.A.A. convention city's welcoming committee from **George A. Hill, Jr.**, of Houston, Houston Oil Co. of Texas. Mr. Hill got the reception he asked for—a band and an old shirt flown from a broom handle.

It took a while for the reception committee to get its "band" lined out and at one time it looked as though they'd have to draft **W. R. Boyd, Jr.** as they figured the American Petroleum Institute executive vice-president and his banjo might fill the bill in case of emergency.

* * *

I. D. Rushing, Shreveport, chief chemist for Atlas Oil Corp., has accepted the position of efficiency and corrosion engineer for Lion Oil Refining Co. He will be stationed at Lion's El Dorado, Ark., refinery. **J. P. Parker,** who has been chief clerk of Atlas Oil Corp., has joined the Lion Oil Refining Co.'s staff.

E. L. Peck, Bartlesville, Okla., director of Cities Service Oil Co., resigned Oct. 31, and plans to reorganize a ranch in California's San Diego.

Mr. Peck started with the Doherty interests in 1917 after leaving Shell where he worked following graduation from Stanford University. He has been president of the Natural Gasoline Assn. of America and active with the American Petroleum Institute and American Gas Assn.

Known to his friends as "Stogie", Mr. Peck's absence from Bartlesville will be missed by a vocal group known as "The Society for the Preservation and Encouragement of Barber Shop Quartet Singing in America," of which he has been president since its organization.

E. L. Peck

* * *

NPN's stork delivery service deposited a 7½-lb. baby boy in Tulsa last week, ticketed for **Mr. and Mrs. David Thornton.** The new father is Tulsa market reporter for NPN and OILGRAM. This is the fourth boy delivered by Stork, Inc., to four NPN homes in last 3 months. Only the NPN bureaus not heard from are Washington and Los Angeles.

* * *

Arch L. Foster, former NPN technical editor and more recently sales engineer for Lubrizol Corp., Cleveland, takes over new duties Nov. 1 in the research department of Phillips Petroleum Co. His headquarters will be at Bartlesville, Okla. Known for his fearlessness in combat with the American marmot (woodchuck in this case) which "stalk" Ohio's Licking Creek, Oilman Foster is co-holder of a title which acknowledges prowess in "trick photography" and "big game hunting" (For details and picture of Shoot-to-kill Foster, who is shown with victim "after the hunt", see Personals in NPN, Oct. 9, 1940.)

* * *

Mr. and Mrs. Robert W. Hadlick of Jefferson City, Mo., sat in on the Interstate Commerce Commission hearings on trainload rates at Oklahoma City, Oct. 22—Mr. Hadlick as a "prospective" but uncalled witness and Mrs. Hadlick as an ICC practitioner interested in what was going on. Mr. Hadlick is executive secretary of the Missouri Independent Oil Jobbers Assn.

One of the features of the Indiana marketers convention was the meeting of many of the older Hoosier oil men. **F. E. "Ed" Tyler,** Ligonier, Ind., Tyler Oil Co. brought the tin-type of himself and the tank wagon from which his business grew, as proof of his early years in the industry.

Maud, or Tessie, the motive power of the vehicle knew her way around the territory as good as "Ed" did, stopping without command at homes of regular customers. The tank wagon was purchased by Mr. Tyler's father, Elias Tyler, in 1907. After the death of the elder Mr. Tyler, in 1909, "Ed" continued to drive the wagon for 10 years. In 1928 he bought the Ligonier bulk plant of Topeka Home Oil Co., for whom he worked after selling his own business.